Aalto University
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BENCHMARKING STUDY ON PUBLICLY AND PRIVATELY MANAGED PRIMARY CARE PROVIDERS IN FINLAND

Master's Thesis

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Abstract of master's thesis

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Abstract

This study is a benchmarking study of Finnish primary care providers in three different municipalities between 2017-2019. The research questions of the study are first whether there are differences between privately and publicly managed health centers in access, quality or cost of care. Second question is whether there are management practices that explain such differences.

In the study total of 13 health centers is analyzed, 6 of the health centers being privately managed and 7 being publicly managed. The benchmarking is conducted quantitatively and qualitatively. The performance of the health centers is divided into three subgroups: quality, accessibility and cost-efficiency. The qualitative analysis focuses on the management practices of the operators and health centers.

The first phase of the research was based on the quantitative data of the health centers provided by the municipalities the health centers operate in. The data collection standards between the municipalities differed, which made the comparisons between the municipalities impossible. Regardless, it was possible to analyze and compare the operators within the municipalities, which provided few answers to the research questions. First, the private providers tend to have better accessibility. Second, the private providers had little shorter consulting times when data was available and relatively higher amount of nurse consultations. Third, the public providers had little higher patient satisfaction, whereas the finding was not consistent for the whole study period in every municipality.

The second phase of research included interviews of the health centers' management as well as the leadership of the municipalities and the private service provider. The interviews focused on the service process and management practices of the health centers. The most significant results that arose included that the private providers had higher focus on operational efficiency and data utilization. Also, the public organizations wanted their health centers to operate similarly to within the municipalities, which led to lower levels of autonomy for the management. Last, the process for evaluation of need for care differed rather significantly between the private and public providers, which in part led to differing utilization of nurse resources.

Based on the study, the outsourced providers operate differently compared to public providers, which also shows in their process figures. Still, the basic mission of improving the health of their served population unites the types of service providers and the different practices could be implemented to different types of providers if deemed useful.

Keywords Primary care, Benchmarking, Management, Access, Quality, Cost

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Tiivistelmä

Tämä tutkielma on suomalaisten perusterveydenhuollon tuottajien vertailututkimus kolmessa suomalaisessa kunnassa ajanjaksolla 2017-2019. Tutkimuskysymyksenä on ensinnäkin, onko yksityisesti ja julkisesti johdettujen terveyskeskusten välillä eroja saatavuudessa, laadussa tai kustannuksissa. Toiseksi kysymyksenä on, mikäli johtamisen käytänteet selittävät näitä eroja.

Tutkimuksessa analysoitiin 13 terveyskeskusta, mistä 6 oli yksityisesti johdettuja ja 7 julkisesti johdettuja. Vertailu tehtiin kvantitatiivisesti ja laadullisesti. Terveyskeskusten suorituskyky jaettiin kolmeen alakategoriaan: Laatu, saatavuus ja kustannustehokkuus. Laadullinen analyysi keskittyi terveyskeskusten ja toimijoiden johdon käytänteiden tutkimiseen.

Tutkimuksen ensimmäinen osio perustui tutkimukseen osallistuneiden kuntien toimittamaan numeeriseen dataan terveyskeskusten toiminnasta. Datan keräyksen standardit vaihtelivat kunnittain, jolloin kuntien väliset vertailut muodostuivat mahdottomaksi. Kuitenkin kuntien sisällä vertailu oli mahdollista, mikä tarjosi vastauksia tutkimuskysymykseen. Ensiksi, yksityisillä tuottajilla saatavuus oli pääsääntöisesti parempaa. Toiseksi, niiltä osin kun dataa oli saatavilla, yksityisten vastaanottoajat olivat hieman lyhyempiä ja yksityisten vastaanotoista suhteessa suuremman osan tekivät hoitajat. Kolmanneksi, julkisilla terveyskeskuksilla oli hieman korkeampi potilastyytyväisyys, vaikkakaan tulokset eivät olleet johdonmukaisia koko tutkimusajanjaksolla ja kaikissa kunnissa.

Toinen osio sisälsi terveysasemien johdon sekä kuntien johdon ja yksityisen palveluntuottajan johdon haastatteluja. Haastattelut keskittyivät palveluprosessiin ja johdon käytänteisiin. Merkittävimmät tulokset sisälsivät ensinnäkin yksityisten tuottajien suuremman painotuksen operaatioiden tehokkuuteen ja datan hyödyntämiseen. Julkiset organisaatiot halusivat heidän terveyskeskusten toimivan samalla tyylillä, joka johti terveyskeskusten johdon vähäisempään autonomiaan. Viimeiseksi, hoidon tarpeen arvioinnin prosessi vaihteli melko suuresti yksityisten ja julkisten tuottajien välillä, mikä osittain selittää erilaista hoitajaresurssien hyödyntämistä.

Tutkimuksen perusteella ulkoistettujen toimijoiden prosessit toimivat eri tavalla julkisiin toimijoihin nähden, mikä myös näkyy palveluprosessin luvuissa. Kuitenkin, pohjimmainen missio parantaa palveltavan väestön terveyttä yhdistää palveluntuottajia ja erilaiset käytännöt voisi olla jalkautettavissa myös eri palvelutuottajien toimintoihin, mikäli tämä koetaan hyödyllisenä.

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1. Introduction

1.1. Motivation and background

Primary care has been seen as a crucial part of societal well-being and often is the first point of contact for people's health care needs (Institute of Medicine, 1994; Starfield et al., 2005). Qualities of primary care also include person-focused care and comprehensive and coordinated care for most health care needs, therefore promoting the overall health of patients and reducing the need for specialty care (Starfield et al., 2005). In Finland, primary care is mainly provided through municipalities, although private service production exists as well. Due to importance of primary care in health care production, the ability to provide quality and accessible primary care services is vital.

Reforming Finnish health care and especially primary care has been on the focus of Finnish legislative action for multiple parliaments. The problems found related to primary care has mostly been around access to care, while other factors such as cost-effectiveness and quality could be improved (Sinervo et. al., 2016; Tynkkynen et. al., 2016). The most recent attempt to develop primary care centered around improving the ability to choose one's health care provider as well as changing the financing model of primary care, whereas previously there has been attempts to increase the purchasing power of the municipalities by incorporating smaller municipalities to larger ones (Tynkkynen et. al., 2016). As such, the importance of primary care for national wellbeing has been noted whereas there is little consensus on how primary care should be improved.

Currently, the Finnish residents have some ability to choose their primary care provider from municipal providers as well as other providers, such as occupational health care and private service providers (Tynkkynen et al., 2016; Health Care Act 47 §). In addition, the municipal providers can outsource their primary care services to private providers, which creates a rather complex system. For the purposes of this study, the focus is on municipal primary care and the differences between publicly and privately managed - outsourced - health centers. The past studies on primary care have mostly been on the overall performance of primary care (Sinervo et al., 2016), international comparisons (Papp et al., 2014; OECD/EU, 2018) or differences between municipalities (Mikkola & Nemlander, 2018). Therefore, there is little prior studies

regarding differences in management within health centers in Finland. In addition, the Finnish system is unique, which makes it difficult to apply results from foreign systems.

1.2. Objectives and the research question

The purpose of this thesis is to benchmark Finnish primary care providers, i.e. health centers, with primarily the comparisons being between privately and publicly managed health centers. The benchmarking is done both quantitatively and qualitatively, and the analysis is supported by past research of Finnish primary care. It is expected that there will be some differences in Finnish primary care management between different types of primary care providers; public and outsourced services. Therefore, the objective would be to find best practices to primary care management through comparative analysis and semi-structured interviews. The focus will be on the relative performance between the service providers. The metrics used for comparison will be derived from past studies or the service providers' and municipalities internal metrics.

The study will be primarily conducted by analyzing municipalities and the service providers' internal data to find differences between providers. Once the data has been analyzed, the goal is to find reasons for the differences through interviews of the health centers' management. The study will be conducted on three municipalities in Finland, which all operate health centers both by themselves and through private, outsourced providers. The objective is to study four health centers in each municipality, two privately managed and two publicly managed. Thus, the research questions for this thesis are:

1. Are there differences between privately and publicly managed municipal health centers in quality, access or cost?
2. Are there differences in management practices, which could explain differences, if any, in quality, access or cost?

1.3. Structure of the thesis

The introduction chapter have provided the motivation and background, and the objectives and research question thus far. Next, the second chapter will be covering primary care and primary care performance management. The chapter will start with defining primary care generally and with insight on the current status of the Finnish primary care system as well as recent attempts at reforms. As primary care legislation and administrative changes offer a way to improve

Finnish primary care, this offers outlook on the areas that could be developed on. Past that, the chapter will cover benchmarking and measuring primary care from three viewpoints: quality, access and cost. The benchmarking and primary care measurements provide value for individual health centers and municipalities to improve through operational changes rather than top-level administrative changes.

The third chapter will cover the methodology of the study. The chapter consists of analysis of the two main analysis methods used in the study. The fourth chapter includes the research and the results derived both from the quantitative analysis and the interviews. After this, the last chapter will include the conclusions, discussion and possibilities for further research.

2. Primary care benchmarking in Finland

Institute of Medicine (1994) defines primary care as follows: "*the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community.*" According to Starfield et al. (2005) the definition "*has been used to measure the four main features of primary care services: first-contact access for each new need; long-term person- (not disease) focused care; comprehensive care for most health needs; and coordinated care when it must be sought elsewhere. Primary care is assessed as "good" according to how well these four features are fulfilled.*" Through this, primary care can be seen as the pivotal first contact to care and promotion of long-term health. Therefore, the importance of primary care for general well-being and quality of life can be seen as indispensable. As the global and local demographics are aging, the importance of primary care and primary care development is further increasing.

According to Starfield et al. (2005), there has been a consistent relationship with the ratio of primary care physicians in an area and better health outcomes within studies conducted mostly in the US between 1980-1995. They also suggest that primary care is linked with more equitable health outcomes in cross-national and national studies in contrast to specialty care. They further conclude that the people having a primary care physician as their primary source of care rather than a specialized care physician have better health outcomes regardless of the initial differences in health. The said outcomes were also consistent in international studies, suggesting the implications being scalable to other systems outside the US as well. However, they conclude that the results of the studies regarding the effectiveness of primary care might

be overinterpreted and other factors, such as overall better income support in an area, might explain the results, but the effort to identify the social policies that have greater influence on health is yet to be successful.

Starfield et al. (2005) proposes six mechanisms, that could explain the beneficial impact of primary care: (1) greater access to needed services, (2) better quality of care, (3) greater focus on prevention, (4) early management of health problems, (5) the cumulative effect of the main primary care delivery characteristics, and (6) the role of primary care in reducing unnecessary and potentially harmful specialist care. These six mechanisms could be derived from the four main features of primary care proposed by them. All six of these aspects could impact to the quality of primary care, whereas for the purposes of this study the first mechanism is focused on as a separate aspect of care. Although the overall beneficial impact and quality of care can be tied to these mechanisms, it is important to create more specific metrics for the purposes of comparing the health providers.

2.1. Primary care in Finland

Finnish primary care can be roughly divided into three provider subgroups: municipal primary care, occupational primary care and private primary care providers. The three groups vary by the method of primary funding; municipal care being funded by public funding, occupational health care through employers' insurance and private health care through private savings or insurance. According to Nguyen and Seppälä (2014) the prevalence of private health care has been rising in the past years through private health care insurances, which they suggest is due to poor access to municipal primary care. Further, they conclude that the usage of municipal care is relatively more common in lower income brackets as the ability to purchase private services is lower. Thus, the ability to improve Finnish municipal primary care would be crucial to ensure more equitable health outcomes as a whole. The equitability aspect combined with natural public budgetary constraints and aging population creates a dire need for continuous improvement of the municipal primary care management.

Developing primary care has been on the focus of Finnish legislation for years. There have been multiple reforms in the past decades as well as attempt for further developments in the past parliaments' terms of office. The focus of the reforms has mainly been in access to care as well as on the cost-effectiveness of care. Especially the problem of access to care has been tried

to solve by improving the choice of provider for the patient, the first legislative changes increasing the patient's ability to choose coming in 1960s (Tynkkynen et al., 2016).

The latest debate on the since withdrawn health care reform centered around the ability to choose service provider as well as developing the financing scheme of the primary care providers. A major focus regarding the ability to choose was on private health care providers being able to compete with the public providers with both gaining access to public funding, theoretically improving quality, cost-effectiveness and access to care through competition. As Tynkkynen et al. (2016) suggest, for many residents the ability to choose their health care service provider already exists through occupational health care and ability to purchase private services, but the majority of the municipal primary health care patients do not have the same ability due to lack of employment or funds. Therefore, the proposed change to the ability to choose either would have likely affected the latter mentioned patient segment, or on the other hand could have led to customers currently using privately funded services changing to publicly funded services. Thus, the proposed adjustment in ability to choose would not have necessarily improved the access to care nor the cost-effectiveness of care.

Even though the latest reforms have fallen and there is no consensus among the Finnish parliament in regards of the direction to develop Finnish primary care, the underlying problems with primary care still exists. Tynkkynen et al. (2016) suggests that the current remuneration scheme for the primary care service providers does not incentivize the providers to attract patients outside their defined geographical boundaries, as generally the patients treated from different areas within the municipality nor patients from other municipalities do not affect the remuneration basis. Therefore, the aspect of competition, ability to choose, is lacking as well as the financial incentives for the health centers to improve. Regardless, Tynkkynen et al. (2016) highlight that the remuneration system differs between and within the municipalities. Therefore, the incentives to improve and general health care management by the municipal government might differ between municipalities and even between the individual health centers.

Regardless of the inability to complete the top-level reforms, the municipalities are able to internally improve their service production within the current system. Overall, the main focus in this study is on the managerial functions that could enable the municipalities to improve their service production with the resources on hand, without major changes to the primary care

system overall. This could be possible due to the municipalities having rather high autonomy on the decisions regarding their primary care production.

2.1.1. Purchaser-provider split

Tynkkynen et. al. (2013) provided an outlook on the purchaser-provider split (PPS) in Finnish health care, defining the term as a service delivery model in which third-party payer, in health care context the municipality, is kept separate from the service provider. This separation can be interorganizational, i.e. the municipality provides the service while the service provider organization is separated from the purchaser, or the service is provided through outsourcing to private service providers. Historically, according to the article, the implementation of PPS was adopted from abroad with the split first created into specialized care and since adopted to primary care by some municipalities. According to them, the separation of the purchaser and provider organization has been justified by competition amongst the service providers in larger municipalities and increased autonomy of the service providers in smaller ones in order to provide services that are more efficient in innovative ways as well as to develop the quality and efficacy of public service provision.

Since the early days of PPS in Finnish primary care some municipalities have outsourced, at least partly, their service to private service providers. According to Tynkkynen et. al. (2013), the EU regulations on competition and public procurement in early 2000s shifted the focus of PPS with private service providers towards competition and contracting rather than collaboration. This shift could lead to more target-oriented primary care provision by the private service providers, as the remuneration of the providers would be derived from the measurable results. On the other hand, especially the larger municipalities that have outsourced part of their primary care production to private service providers would have likely created the split at least partly in order to develop their service provision by gaining innovations and expertise from the private providers' management and organization that could be implemented to the public providers.

Tynkkynen et. al. (2013) further highlight that a special dimension of PPS in Finland is the relatively small size of the purchaser, the municipalities, compared to reference countries, where the purchaser is commonly a larger region or the nation as a whole. Due to this, the split has often created regional monopolies for the private service providers that have gotten the outsourcing contract. To combat this, past national governments in Finland has attempted to

restructure the municipalities and service purchaser system in order to provide more varied and competitive environment for health care provision, whereas the reforms are yet to be completely successful in this regard.

According to Tynkkynen et. al. (2013), due to the national government's attempts to increase the size of municipalities some municipalities have completely contracted out their primary care service. As the private providers often operate outside the municipality as well, it could be argued that the service provision would be more flexible as the private providers would have higher ability to respond to changing demand and other disruptions in the area compared to small municipal unit, thus enabling the small municipalities to operate independent primary care production with outsourcing. On the other hand, once most or all of the municipal primary care production have been outsourced to a private provider, it could lead to higher dependency towards the private providers and the municipality's ability to re-establish public production, if required, could be debated.

As the procurement of primary care services is done on a municipal level, it would be crucial to distinguish the contracting method and details between municipalities in order to gain comparability between the providers. Especially the remuneration scheme and measured targets for outsourced service providers could explain potential split in results between the providers as the private providers would most likely strive to improve their service on the metrics measured by the municipalities in order to justify the outsourcing agreements. In addition, the incentives for the private, as well as for the municipal units, would likely differ depending on the remuneration scheme, be it based on population served, actual services provided or other model, if a profit seeking or maximizing behavior is expected.

On the other hand, as the publicly managed health centers can be seen as a variation of PPS, it could be argued that those operators would strive to better results defined by the metrics used similarly to the privately managed health centers. Therefore, if the goals are set similarly regardless of the ownership or management status, PPS and contracting wouldn't necessarily cause differences in results. Regardless, it is likely that the publicly managed health centers are financed through budgetary decision making at least to an extent, which is commonly based on the prior years' actualized figures. Therefore improvements, especially in cost-efficiency, could lead to tighter budgets and more challenging targets, thus weakening the incentives to improve. On the other hand, the privately managed organizations would likely benefit themselves by improving and innovating. Thus, it could be argued that the private organizations

would have better incentives to improve their operations, albeit it can be questioned how equitably the benefits are distributed between the municipality and the service provider.

2.1.2. Strategic purchasing

Figueras et. al. (2005) proposes strategic purchasing as a mechanism to improve the results in split health care production, where the purchaser needs to make decision on which interventions are purchased, how those are purchased - including contractual and remuneration mechanisms - and from whom are purchased in light of quality and efficiency of possible providers. This would provide the purchaser, the municipality in Finnish context, a better overall framework on which to build the operations onwards. In addition, especially in the private providers' context, where the municipality would likely have less operational control past the purchasing negotiations, it would be crucial to define all three aspects of strategic purchasing in order to secure high quality and efficient service production. Regardless of the proposed benefits of strategic purchasing, Figueras et. al. (2005) acknowledges the difficulties to assess purchasing as a separate function of health care, as it is difficult if not impossible to distinguish the function from the health care system as a whole. Still, it could be possible to evaluate purchasing in context where the purchaser has multiple different service providers as the actualized results would provide some support to differences in quality of purchasing methods, albeit determining the causation of such results could be difficult. Thus, while evaluating different primary care service providers, it is important to acknowledge and study purchasing and contracting as possible factors.

Figueras et. al. (2005) note that as the theoretical benefits of purchasing and providing are increased when there is more competitive and less complex markets than generally on health care, some health care systems have shifted towards network models where the purchaser-provider split is maintained but long-term relationships and integrated decision making is encouraged. This model could be seen as a way to enable more competitive markets and therefore strive for higher efficiency and innovation while simultaneously the purchaser has higher control over the service production than in traditional PPS models. In addition, in municipal primary care it could be seen as a way to share innovations and best practices amongst the different types of service providers and therefore increase the system as a whole.

Figueras et. al. (2005) further highlight the importance of contracting and the payment scheme of the health care providers in generating quality primary care production as the independence

of the providers increase, the contracts and payments are one of the few ways to control the service production. Naturally, the best contracts for health care service production would be ones that create high quality service with high efficiency and low costs, whereas in reality there is a trade-off between the targets. The decided payment scheme, be it a fee-for-service model, a population based capitation model or other, would likely incentivize the service provider to improve on the measured metrics and targets over other aspects of service production to some extent, thus further highlighting the importance of the contracting. Figueras et. al. (2005) also note that the incentives can be "gamed" by the service providers as they generally have better information about the service production compared to the purchaser. This problem is further enhanced due to the issues with evaluating health care production quality with routinely collected data, that was noted by Riippa et. al. (2014).

2.3. Quality of care globally and in Finland

According to WHO (2004) the following are the attributes and dimensions of health care quality to be assessed: effectiveness, efficiency, technical competence, safety, accessibility, interpersonal relations, continuity and amenities. They further conclude that: "each health care system can be divided into three components: structure (human and physical resources), process (the procedures and activities of care and services) and outcome (the results of care and services)". As of the quantifiable metrics derived from the components, for structure they specify the physicians' education and the ratios of resources available. For process the variation in current process compared to a standard set of steps for the same procedure and guidelines are mentioned. For outcome they mention the satisfaction of the patient and the overall health status of the patients. In addition, there should be other key indicators depending on the desired outcomes. For the purposes of this study, there is likely little differences in structure as the health center physicians would likely have similar education and resources to operate, whereas on the process metrics it is questionable whether there is data available for deviations from the guidelines. Therefore, of the three components outcome would likely be the best component to compare the quality of the health centers' service production.

Internationally, the primary care physician's average consultation length is used as an indicator on quality of care in studies and by organizations like WHO (Irving et al., 2017). In country to country comparisons, the metric is rather useful as it highlights the significant differences in the resources allocated to the consultation, which often relates to higher quality care outcomes. Regardless, the consultation times in itself does not lead to higher quality care but is seen as a

simple and comparable metric to use in quality comparisons. In a context of a single country, the use of consultation times as a quality metrics is debatable, as the differences are likely less significant, therefore the effect of differences would be minor.

In their study Irving et al. (2017) highlight that there is a statistically significant relationship between consultation times and health care spending per capita, even after adjusting for GDP per capita. They further conclude that the shorter consultation times effects the satisfaction and mental health of the physicians but had little effect to referrals to further medical studies. They also highlighted that prior studies found links with shorter consultation lengths to overuse of prescriptions and poor communication with patients. Therefore, even though the shorter consultation times did not directly lead to significantly different patients' treatment referral outcomes, the indirect effects of poor communication and lowered capacity to work for the physicians could lead to lower quality of care.

Even though consultation length is a simple and quantifiable metric for primary care quality, Andersson and Mattsson (1994) found that in Swedish context time is rather insignificant factor to the overall quality of care. As the consultation lengths in Sweden, around 20 minutes, are already high compared to UK, often less than 10 minutes, where the quality effect of consultation length has been noticed, they argue that the consultation length in such context would not be a barrier for good quality care. Further they conclude that the practicing physician is the most significant factor to the perceived quality of care. In Finland the average consultation length is between 15-20 minutes (Irving et. al., 2017). Therefore, it can be assumed that the findings in Swedish context would be better applicable to Finland compared to the UK findings. Further, if the qualities and skills of the practicing physician is the most significant factor in Finnish context as well, the importance of good leadership and management could arise.

Riippa et. al. (2014) studied the evaluation of complex health interventions using routinely gathered data in Finnish primary care context. In the study they found inability to assess the implementation of Finnish chronic care model (CCM) to the care organization and the patients' self-management of care, therefore the ability to evaluate complex interventions would not be sufficient with routine data. They further concluded that the gaps in routine data collection could lead to inability to evaluate the health care organization as a whole. This tradeoff between data quality and cost of collection could be seen as a significant barrier to development of the primary care system as well as for the health center evaluation for purposes of this study if the

data collection is still insufficient. In case there has not been improvements in data collection since the study was conducted, the ability to evaluate quality by routine data can be questioned, especially if mid to long-term health developments are not measured. In addition, the followed and measured metrics can likely be 'gamed' to an extent and the focus of improvements could be mainly on the said metrics. Regardless, it should be possible to at least create a baseline for quality through routine data, therefore secure the comparability of other aspects of performance.

Due to the limitations in measuring quality with routine data, the operational quality of the health center could be routinely evaluated by customer and personnel satisfaction measurements. Customer, or patient, satisfaction measurements should align with the perceived value of the health care production as proposed by WHO (2004), and therefore would provide tangible and quantifiable metric for quality comparisons. Regardless, there are other aspects affecting the perceived value outside the clinical quality of the consultation that are separated from quality in this context, i.e. accessibility, therefore the perceived customer value can't necessarily be used as a definite metric for quality of the consultation. Additionally, the perceived value or patient satisfaction does not necessarily align with the quality of health care due to the complex nature of the interventions. The complexity could lead to situations where patients are satisfied with the care received even if in actuality the intervention was not beneficial or even harmful as the patient rarely has the competence to evaluate the clinical quality.

As Irving et al. (2017) suggested, low personnel satisfaction has been linked to lowered capacity to work for the physicians which has led to lower quality of care. Even though the findings have been made regarding effects of consultation lengths, personnel satisfaction would likely affect quality of care even if the results were due to other factors. Therefore, the personnel satisfaction data would provide to be useful when comparing health center performance and quality. Similarly to patient satisfaction, it should not be used as a definite metric for differentiating performance even when used for comparisons. Additionally, as more satisfied personnel is more likely to stay longer in their position, a health center with highly satisfied personnel could likely be able to provide more continuous care, an aspect of quality in primary care as proposed by Institute of Medicine (1994) and Starfield et al. (2005) among others.

Generally, the quality of Finnish health care as a whole as well as quality of primary care have been found to be on a good level (Nguyen & Seppälä, 2014). According to Nguyen and Seppälä, 7% of the respondents of their study found the quality of public health care to be bad or very bad, whereas the quality of private health care was generally deemed slightly better. In addition, they concluded that the respondents that only used certain service provider type deemed the quality of the provider slightly better than the respondents that used both private and public health care services. As stated by Tynkkynen et al. (2016), most of the municipal primary care patients are unable to access primary care services from other types of providers, whereas the employed and/or insured population use far less the municipal service. Therefore, it could be argued that the primary care market is somewhat segregated, which could suggest lack of comparability between the patient satisfaction as the patients have little contrast to the other type of service and are from different socio-economic situations.

According to Knape et. al. (2016) a major metric in Finnish primary care quality evaluation is the patient satisfaction to the care, which have generally been high overall with slight upward projection between years 2010-2014. Regardless, they conclude that in 2015 28,8% of surveyed patients in Finland did not receive the amount of care they would have required for their health care need. Contrasted to the amount of patients perceiving the quality of the care being poor suggests that the issue with sufficient amount of care could be a problem related to access to care rather than quality of the consultation, which would be in line with the recognized problems within Finnish primary care. Therefore, it is crucial to be able to differentiate quality from other measured aspects as well as define quality in primary care.

Effectiveness of care could be seen as an additional quality metric for the primary care providers. The metric has been used in specialized care where the effectiveness of the treatment chain is often measured, whereas there is little to no knowledge of the effectiveness of Finnish primary care (Knape et. al., 2016). The problem with effectiveness measurements could arise from the single-consultation treatments with little follow-ups on the effects of the treatment, therefore the service provider would have little knowledge of the effectiveness. It could be argued that in case the patient does not return to the health care provider for further treatment, the first consultation would've been effective, whereas recognizing whether this is due to successful intervention is debatable. Regardless, the ability to follow-up and measure the effectiveness could be seen as an aspect of the continuity of care, a feature of quality primary care proposed by WHO (2004). Even though the effectiveness of primary care would be

difficult to measure in single-consultation treatments, in long-term treatment and continuous care, the effectiveness could be measurable at least on broad level by analyzing the therapeutic equilibrium of the patient.

2.4. Access to Finnish primary care

As mentioned, access is generally defined as a part of quality of primary care in international context. On the other hand, in Finnish studies access is generally measured as a separate metric or function. As access has been deemed as one of if not the most pressing problem in Finnish primary care, in this context access is separated from quality and measured as an individual factor.

In prior research of Finnish primary care, the biggest problems have been experienced with access to care and in dissatisfaction relating to the access (Sinervo et al., 2016; Tynkkynen et al., 2016). According to Sinervo et al. (2016) study, 6% of Finnish people have experienced dissatisfaction with access to care, which is in line with the EU average, 6%, but of the reference countries used in their study Sweden has had lower score, 3%, whereas Estonia has higher rate of dissatisfaction, 11%. On the other hand, Finnish people are relatively patient in regards of access to care, a waiting period in excess of a week is deemed acceptable, whereas in other countries even a wait of few days is deemed negative (Papp et al., 2014). Therefore, the experienced dissatisfaction is not necessarily relevant way to compare the access to care between countries.

On the other hand, Nguyen and Seppälä (2014) suggest that 12% of the respondents to their study had experiences dissatisfaction related to access to physician in past 12 months. Regardless, their study did not differentiate between primary care and other care physicians, although they suggested that the median length for unacceptable waiting period for municipal health center physician would be four weeks. This would further highlight the uncertainty amongst studies relating to acceptable waiting periods, whereas the low number of respondents for this study means the results can't necessarily be extrapolated to the population as a whole.

According to THL (2018) statistics, 45% of non-urgent patients accessed care within a week of the evaluation of need for care in October 2018 and in 97% of cases the patient accessed care within the legal maximum of three months after the evaluation of need for care (Health Care Act 51 §). The evaluation of need for care needs to be done within three days after the

first contact to the health center and the non-urgent care visits does not include control visits for existing patients but only patients that contacted due to new health problem (Knape et. al., 2016). There have been no major changes in access to care in recent years. During the month of the THL (2018) study, Espoo had the most cases of access to care exceeding the legal maximum. According to the study, the largest relative regional differences in access to care was in waiting times of zero days and 15-30 days. In other timeframes the waiting times were similar regardless of the region.

In non-urgent care Finnish citizens are able to choose the health care provider from which they get the care from both within their municipality and in some cases outside their municipality of residence (Health Care Act 47 §). This ability to choose could be seen to enable evening out of the regional differences in access to care as the patients would switch their service provider once experiencing dissatisfaction. In reality, the location creates restrictions to the choice of service provider, therefore the differences might not even out through patients' selection. According to study of Sinervo et al. (2016) 80% of Finnish people are aware of the possibility to change their health care provider within their municipality and 60% are aware of the possibility to change within the country, but only 8% of the patients have changed their health care provider. According to the study, changing the health care provider is significantly more common in Sweden, on average 24% of patients have changed their health care provider, as the ability to choose has been broader in Sweden and in effect longer.

2.5. Cost of care

According to studies analyzed by Starfield et al. (2005), the total cost of health services was lower in areas with higher ratios of primary care physicians per population, which they attribute to better preventive care and lower hospitalization rates. This could suggest that focusing the investments into primary care rather than specialized care could lead to better cost effectiveness at least to a point. Overall, the value of preventive care in decreasing the costly specialized care can be seen to improve the cost-effectiveness of the overall health system.

Overall, as primary care is an essential service to population and the Finnish service production is mostly done by public resources, the cost-efficiency of care could be seen more as an issue of resource management rather than other, more price sensitive products and services. Therefore, the budgetary limitations create bottlenecks for providing high level service to as large population as possible and better cost-efficiency enable more value creation with the

resources on hand. Thus, the cost-efficiency comparisons between the health centers are important alongside evaluating quality, accessibility and other factors by enabling efficient resource usage and reallocation if necessary.

Vaalavuo et. al. (2013) note that age, even though correlating with other factors, can't explain the allocation of costs in health care well, even though the significance of age is highest in primary care. In their paper they suggest new way to allocate state subsidies to municipalities based on factors such as general health and socioeconomic background of the population. They proposed a regression model for evaluating health care and primary care costs for a population based on weighted factors of needs for demographics which could provide useful way to standardize the population for cost comparisons.

According to Vaalavuo et. al. (2013) the age and gender of the population would explain only around 50% of the overall health care expenditure, whereas in primary care the factors would explain around 76% of the overall costs in Finland. Other factors, such as health status and socio-economic situation would explain around 10% and 14% of primary care expenditure respectively. Due to this at least the age and gender of the population should be standardized for cost comparisons. Additionally, it is questionable how readily available is there data on the health and socioeconomic status for a client population of a health center as previous studies, e.g. Mikkola and Nemlander (2018), have been conducted on municipal level and the public data is mostly available on municipal level.

In 2017 the average cost per resident for primary care in Finland was 593 EUR (Kuntaliitto, 2017). The average costs were generally lower for larger municipalities, which suggests there are benefits of scale to be had in primary care. According to Mikkola and Nemlander (2018), of the total health care expenditure in large cities 48% can be allocated to primary care and 52% to specialty health care in 2017. More specifically, the 48% allocates to 25 percentage points in outpatient care and 23 percentage points to institutionalized care.

Mikkola and Nemlander (2018) found in their study that the age-adjusted primary care costs in large cities were highest in Espoo, 6% over the average, and lowest in Pori, 8% below the average, whereas the cities' relative cost-efficiency between outpatient care and institutionalized care differed and both rarely were consistently over or below average. This could suggest differences in management priorities relating to allocation of resources between the type of care. Also, some of the cities with the worst cost-effectiveness in primary care had

better than average cost-effectiveness in specialized care. As an example, Espoo had the worst figures in primary care and the best figures in specialized care. This could suggest that the referral to treatment differs rather significantly between areas, therefore the figures would not necessarily be completely comparable. On the other hand, the investments into primary care could have led to better preventive care and therefore lowered the demand for specialized care, a point of view consistent with the findings of Starfield et al. (2005).

According to Knape et. al. (2016) the cost of primary care was 20,4% of overall health care costs in Finland and the real costs have been lowering due to national structural changes in long term patient care. As the structural changes have been national, it can be argued that the changes would affect the individual health centers on a relatively similar level and therefore the current results derived from health centers' routine data would be comparable. This would also suggest that even though the absolute figures could have had a year-to-year impact, the relative figures should remain rather stable after adjusting for the population differences. Knape et. al. (2016) further highlights that the productivity in primary care, which have been decreasing overall in Finland, differs significantly between health centers, whereas the methodology, data quality and coverage of the measurements have caused discussion on the reliability of the studies. They continue that using the number of patients treated is too broad metric for health center comparisons, whereas the reliable comparisons would require extensive statistics on the diagnostics and contact types and the statistics have been rather heterogeneous amongst health centers. Therefore, it is crucial to be able to confirm as high comparability and reliability of the data used in the comparisons. This could also mean that some metrics could only be compared within a municipality in case there is major differences in the data gathering instructions or practices.

The overall expenditure on health care per capita in 2017 in Finland, 3013 EUR, was slightly above the EU average, 2773 EUR, whereas the average cost for other EU-member Nordic countries, Sweden and Denmark, were slightly higher (OECD/EU, 2018). This suggests that the cost-effectiveness of Finnish health care as a whole is on good level compared to the nearest reference group. Regardless, the data on overall health care expenditure does not completely reflect the costs of primary care as it is rarely differentiated in these kinds of studies.

2.6. Primary care benchmarking

An operational definition for benchmarking is "finding and implementing best practices" (Camp & Tweet, 1994). This means finding the best practices through e.g. data analysis or qualitative analysis and implementing said practices to own operations. Camp and Tweet (1994) mention few benchmarking types including:

1) Internal: E.g. through pilot units.
2) Competitive: Comparing the work processes of best competitor(s).
3) Functional: Comparing a work function to a functional leader.
4) Generic process: Comparing organization's basic business processes.

Depending on the organization size, industry and type, the benchmarking options are viable tools for developing the organization. In the context of this study's subject, all of the options should be viable due to the organizations being rather large with viable competitors or cooperators to benchmark to. Camp and Tweet (1994) notes that in health care context, benchmarking can target business, support or clinal functions, of which especially clinical side has existing networks of people ready to share their knowledge, whereas the support and business functions are kept more secret as it creates the greatest competitive edge in business sense.

In Finnish context, Perälä et. al. (2007) studied requirements and need for national benchmarking system in health care. They identified few key areas to benchmarking in health care: focus on core processes, learning mindset, adapting best practices, developing clinical processes and pursuing health outcomes. Additionally, they noted, that when deciding the reference groups for benchmarking, the comparability of the units and metrics is crucial. The development of the metrics used in the benchmark system was based on three guidelines: benchmarking is based on Balanced score card, the key performance indicators serve the medical work as extensively as possible and the data is gathered routinely. They noted that it is important to both create a domestic benchmarking system in addition to follow the international best practices, both in quantitative side – e.g. USA, Belgium, Netherlands and Sweden – and qualitative side – e.g. UK. Later e.g. Jonsson et. al. (2019) have studied the requirements and need for health care quality registries in Finland.

Even if the national benchmarking systems would be unavailable to further into future, the need for benchmarking for medical providers remain. In order to develop their processes and learn from practices of others, it is critical to have internal benchmarking processes. In the context of this study, the studied operators include three large Finnish municipalities as well as a large private operator, which would enable all four types of benchmarking mentioned previously to be utilized. As the operators have multiple health centers, they have the possibility to e.g. pilot new models which could be unavailable to smaller operators. Additionally, the cooperation of municipal, public, providers and outsourced providers could provide a way for information sharing and efficient benchmarking processes. Therefore, the best practices could be identified and imported to other health centers as well.

Benchmarking might become more problematic within smaller municipalities, as they have less resources available for such support functions. Second, possibilities to pilot new systems and cooperate within their municipality might be smaller in case the municipality only have a few operating health centers. Regardless, as the internal possibilities reduces due to smaller scale, the importance of cooperation and communication with other municipalities and operators increases for information sharing purposes.

As Camp and Tweet (1994) noted, the health care providers might be less open to share their service procedural information in order to maintain their competitive advantage, the importance of international benchmarking could arise. Even though the health care systems in different countries may vary, there could still be best practices to learn from and improve upon. On the other hand, as the health care systems vary, the health care organizations might not operate in more than a few countries, which could diminish the competition and need to hide the service processes. Therefore, the Finnish operators might be able to find suitable partners for cooperation and information sharing from abroad as well as from Finland.

2.7. Measuring primary care performance

Smith et. al. (2008) proposed information requirements for different stakeholders of the health care system in order to evaluate the performance for their personal needs and to ensure accountability. They proposed eight stakeholder groups with differing data requirements to fulfill their needs from the system:

1) government, require data on performance, access, equity, utilization and general health in order to i.e. set health policies, ensure regulatory procedures and ensure government finances.
2) regulators, require data on patient safety and welfare, and probity and efficiency of finances in order to protect patient safety and market efficiency
3) payers, require data on comparative performance, productivity, cost-effectiveness and access to care in order to secure efficient and effective spending of funds
4) purchaser organizations, require data on patient satisfaction, provider performance and cost-effectiveness of treatments in order to ensure that the contracts made are in line with the patient expectations
5) provider organizations, require data on clinical performance, patient experiences and satisfaction, access and equity of care, and utilization of service and waiting times in order to monitor and improve existing services and assess local needs
6) physicians, require data on current and best practice, and performance benchmarks in order to stay up-to-date with current practice and improve performance
7) patients, require data on location and quality of nearby services and quality of options for elective care in order to choose the provider and assess alternative treatments
8) the public, require data on trends and comparisons of system performance at national and local level, efficiency and safety in order to reassure availability of appropriate services and to hold government and elected officials to account

Smith et. al. (2008) suggests that regardless of multitude of information needs the performance measurement systems often are made to present wide range of data in hope that some of the information would be useful to different parties. Due to this, the collected data often includes information not useful to certain parties, whereas more optimal system would provide information to satisfy demand of different users.

Smith et. al. (2008) continue that the health care performance measurement can be divided into multiple aspects such as health outcomes for individuals and population, clinical quality, responsiveness of the health system towards individuals, equity and productivity. Due to the broad information needs, the importance of collecting such data for performance management purposes increases. If done well, such data also enables better information management and allocation of resources to correct things.

Figure 1 proposes a value chain in health care production, where the resources and production system lead to an output - a medical procedure done to a patient - which creates an outcome to the patient's overall health and finally value to the patient. The output of the value chain could be seen first as a question of access - is the correct output available and in proper time period - and second a question of quality - is the procedure optimal and done correctly. These ultimately determine the outcome and thereafter the patients' perception of the treatment. Peltokorpi (2010) suggests that the outcome and customer value is difficult to measure due to complexity of health care context; therefore, the outputs should be main measurement of efficiency in operations management analysis. Regardless, the perceived value should be comparable to an extent through NPS or other customer satisfaction metrics.

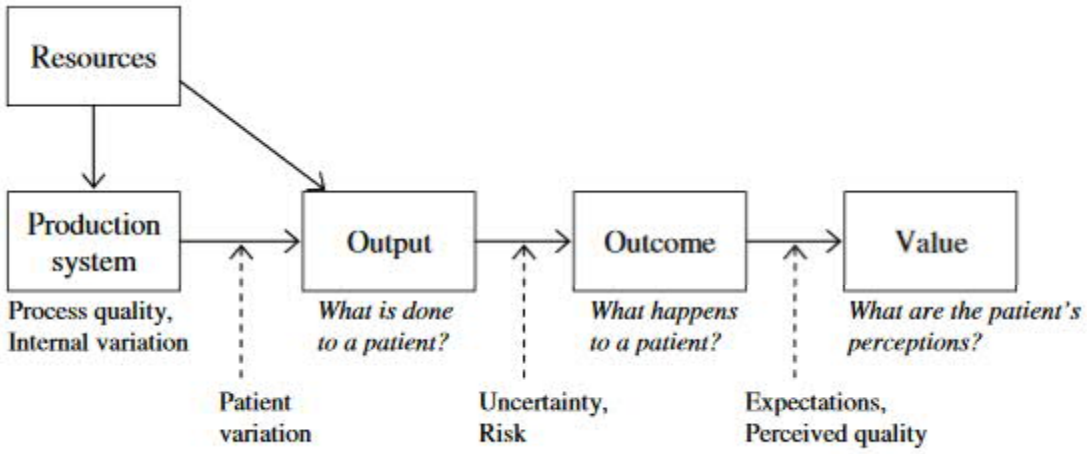

Figure 1. Value chain in health care production (Peltokorpi, 2010).

Productivity and performance in primary care has been previously measured by number of outputs or patient satisfaction in relation to available resources, e.g. by Glenngård (2013). In the study, it was concluded that the two productivity metrics are compatible and can be improved simultaneously. As for the value chain point of view, the providers with higher productivity would likely have better production system as the other aspects of the value chain are more efficient. This would be further highlighted in context of large provider, as the number of patients would lower the variation caused by the uncertainty and risks caused by the output. Therefore, in order to increase the number of outputs, or accessibility, and customer value the resources needs to be increased or production system has to be improved.

Liu and D'Aunno (2012) studied the productivity, measured by patient visits per year, and cost-efficiency, measured by cost per patient, of different primary care service production types

differing depending on the level of usage of nurses. They found that the productivity and cost-efficiency is highly dependent of the workload that is delegated to nurses from physicians, allowing the physicians to do the work only they can perform. The optimal substitution ratio, i.e. the amount of initial work done by nurses, is highly dependent on service rate, i.e. how many patients are treated daily, the referral rate, i.e. how many patients are further referred to physician, and the level of physician supervision. They argue that due to the complexity of such factors, the optimal workload allocation could be difficult to implement, therefore a team-based shared-panel approach could tackle such problems by integrating the capacity of the workforce.

As suggested, the performance of the health center can be divided into at least quality, accessibility and cost-efficiency. The studies mentioned previously highlight first the difficulties to measure the efficiency and quality of the production, whereas the productivity metrics are generally easier to combine. Therefore, a basic performance measurement should at least consist of analysis of the service process and production system. Improving the process can be done by e.g. rearranging the workload during the process and alternating the appointment systems among others. On the other hand, the non-procedural metrics and clinical metrics could be more difficult to measure due to e.g. lack of data or complexity of the situations.

2.7.1. Quality of care metrics

As noted, the customers perceived quality of care, or customer satisfaction, have been commonly used in Finnish primary care evaluations, i.e. by Nguyen and Seppälä (2014), Tynkkynen et. al. (2016) and Knape et. al. (2016). Customer satisfaction could be an easily measurable metric for quality as it provides a clear numerical value for the received service from client's perspective. Regardless, as Peltokorpi (2010) noted, the customer value or satisfaction could be insufficient to measure health care service production quality due to the complexity of the interventions. Therefore, the patients could evaluate aspects that are not necessarily related to the clinical performance of the intervention. Regardless, higher customer satisfaction in comparisons among similar service providers would likely suggest better performance in quality, even if the quality is not related to the clinical quality but rather other aspects of care.

A commonly used metric for customer satisfaction, or rather customer loyalty, is Net promoter score – NPS – created by Reichheld (2003). The rating, derived from 0-10 rated answers to question "How likely is it that you would recommend our company to a friend or colleague?", is stated to be a strong predictor for growth and loyalty. Of the answers, the percentage that answered 0-6 – dectractors – is deducted from the percentage of answers of 9-10 – promoters – thus creating the score. In the article, it is stated that world class loyalty figures are around and over 75%. Even though NPS is stated to be a strong indicator of growth and loyalty, its usefulness in Finnish primary care could be questioned as the patients, or customers, have lessened incentive and ability to choose and change their provider. Therefore, the Finnish public primary care production could be compared to a monopoly, even though the customers are able to change their provider once a year. Reichheld (2003) states that the score does not predict growth well in monopoly or near monopoly situations, whereas it is debatable whether growth is even objective in municipal primary care. As such, the metric should be limited to a patient satisfaction metric and a metric for perceived success of the intervention in this instance.

The clinical quality of care, the quality of output in Figure 1, would likely be more difficult to measure by KPIs or other routinely gathered data. The methodological requirements for such evaluations would at least include medical outcome evaluations, which should be left to medical professionals. This evaluation could be done for example by routine patient questionnaires to provide some information regarding the success of the interventions and therefore provide quantitative information on the outcomes, but the reliability of such metrics due to the complexity of the interventions would be questionable. Additionally, the availability of the data and resources required for the collection could be high compared to the benefits.

As Irving et al. (2017) suggests, personnel satisfaction is linked with the overall quality of care. Therefore, this could be used as a quality indicator within health centers. The problem for benchmarking purposes, especially in context of this study is that the personnel satisfaction metrics are not necessarily uniform, therefore not totally comparable. E.g. Lääkäriliitto (2006) – the workers union of physicians – has provided recommendations for good workplace. Also, Lääkäriliitto (2015) found that the most common causes for dissatisfaction was misfunctioning IT (64% answered it has troubled often), constant rush (56%), too little time to do work properly (47%), changing IT systems (47%), constant interruptions (46%) and the pace of work (30%).

As noted previously, Starfield et. al. (2005) provided four features of primary care in order to assess the quality:

1) Providing first contact for each new health care need;
2) Long term person, not disease, focused care;
3) Comprehensive care for most health care needs and
4) Coordinated care when it must be sought elsewhere.

As these features are generally rather broad, it is important to be able to derive metrics or KPIs that are measurable by routine data. Additionally, as the success regarding the features are dependent of the overall health care system, it could be difficult to secure complete convergency of any routine metrics with the features. Regardless, it is possible to divide the features into smaller components for the purpose.

First of the features proposed by Starfield et. al. (2005) is mostly a question of accessibility; due to the structuring of the thesis, this is covered in the next chapter. The second feature is focused on promotion of overall health and wellbeing rather than treatment of diseases. Therefore, the feature could be measured by the resources directed towards preventive consultations and screenings, and education regarding controlled substances, exercise and nutrition in addition to other general health-promoting activities. In the context of individual health center, the ability to provide these services would be dependent to the responsibilities given to them by the municipality as well as the available resources once other necessary functions, such as care of the patients, is done.

The third feature is related to the clinical quality of the care as well as the ability to diagnose the patients regarding their healthcare needs. It should be noted, that there is not always information regarding the success of the intervention as for most minor needs there is little follow-up after the intervention. Due to this, the third feature could be routinely measured by recurring visits from the same patients, especially if the needs are consistently similar, as the recurring visits could suggest that the intervention was not successful. Still, it should be noted that for some diseases it is necessary to visit a physician regularly and some diseases require follow-ups, which would show as a recurring visit in the routine data. Therefore, it would be beneficial to be able to recognize the types of needs that create “unnecessary” recurring visits and would suggest unsuccessful initial interventions.

The fourth feature is the ability to refer patients to specialized care or further screenings in case the diagnosis can't be made, and care can't be provided by the primary care provider. This could be measured by following the number of referrals to specialty care, screenings and further test to diagnose the patient relative to patient visits or other. The problem with these metrics is that these provide little initial value; on one hand the ability to refer patients to specialty care is a feature of good primary care system, whereas specialty care is often much more expensive and more focused on specific medical needs. Therefore, the indicator should be used more as a contrast within and between health care providers, where significant differences would result to further investigation regarding the reasons behind the differences.

To conclude, at least following KPIs could be useful in order to measure and follow the quality of care:

1) Patient satisfaction, as measured by NPS or another similar metric
2) Personnel satisfaction questionnaires
3) Promotion of health and overall wellbeing
    a. Total amount of resources directed towards preventive care
    b. Relative amount of resources directed towards preventive care, compared to all resources
    c. Therapeutic equilibrium of patients with long-term diseases
4) Succession of interventions measured by e.g. amounts of recurring customers
5) Number of referrals to further care sought from elsewhere

2.7.2. Access to care metrics

Access to care can have multiple definitions. First, access can be distance or ease of travel to care. This is an important aspect regarding the municipalities, whereas an individual health center has little to no ability to affect the metric and location. Therefore, the major focus regarding accessibility should be on waiting times and the availability of care when needed. As urgent care should be available whenever needed on short notice, following it provides little purpose, whereas it should still monitored to an extent. Therefore, the major focus should be on non-urgent care. As non-urgent care is rarely disease focused care, accessible and high quality non-urgent care would promote the first two aspects of quality mentioned by Starfield et. al. (2005).

The accessibility to non-urgent care can be measured in a few ways. First, the waiting time between first contact and the appointment provides some useful information, especially if the patients can be differentiated depending on their health care needs. In some instances, low waiting times might not be beneficial in case the patient needs to do measurements prior to the appointment, as an example an asthmatic patient doing PEF measurements. Regardless, such waiting time measures are useful KPIs in case measured regularly.

In Finnish context T3-time is the most commonly used accessibility metric. The metric measures the median of health center's physicians' third available non-urgent care appointment-slot in terms of days. Therefore, it would give a broad overview of how long it would take for a patient to get appointment. The metric has been questioned due to the ability to withhold appointments in order to make the metric look better, but it is debatable whether that is true. Regardless, it is the most common metric used in Finland, therefore also most comparable.

To conclude, some possible metrics to measure access include:

1) Average waiting time from first contact
2) T3-time
3) Average distance from home to health center
4) Average travel time from home to health center

2.7.3. Cost of care metrics

Measuring cost of care and allocating the actual costs lies close to cost accounting literature. As mentioned previously, the public service production operates little different compared to for-profit, sales based, business in terms of financial metrics. First, there is less connection between income – or resources – and production costs as higher production figures rarely lead to more resources. Arguably the same principle applies to outsourced providers if and when the payments are completely or mostly based on the size of the population served rather than production figures. Second, it is debatable whether the incentives to lower costs and increase cost-efficiency are the same as in for-profit business due to commonly the budgetary decisions being made based on past years actualized figures, therefore better cost-efficiency leading to less resources. Third, it is questionable whether all of the relevant overhead costs are allocated to the total costs. Therefore, the actual costs and total costs of care might not be known

completely, which makes measuring and managing costs more difficult. Regardless, total cost divided by population, patient consultation or patient visit should be beneficial metrics to follow.

Additionally, it would be important to understand the factors that cause the costs. For example, costs related to personnel, medical studies and workspaces create significant portion of the total costs. Recognizing and allocating the relevant cost factors enables cost improvements through information management as well as enables benchmarking and cost-efficiency analysis. As mentioned in e.g. KPI and BSC segment, the financial data and information in isolation does not support the long-term strategic goals of an organization. Therefore, the cost measures should be combined to production or population measures in order to create comparable efficiency metrics.

First, when looking at fixed costs or semi-fixed costs, such as workspace related costs and personnel costs, the cost-level should be tied to at least the size of the population served, i.e. the population served in Finnish context. Larger population almost directly translates to requirement for larger office-space and more personnel, which creates costs, therefore linking the two together is beneficial. Second, the major variable costs, such as medical treatment and examination costs – e.g. referrals, medication, laboratory studies and imagings – should be primarily looked in context of production figures; how often further examination is required and what types of costs occur. Naturally, the population size is a variable and divider affecting such figures, therefore should be taken into account, whereas the information it provides in isolation or through benchmarking is debatable. When considering the production figures to choose as dividers, the long-term strategic goals should be taken into account. E.g. in case a health center tries to treat their patients while minimizing the number of visits by utilizing electronic and phone consultations, the amount of visits as a divider provides little information. Whereas when a health center provides physical appointment-based services, the base metric of treatment costs per visit could be informative enough.

To conclude, the financial measures should first be identified to accurate level in order to enable analysis of costs. Second, the metrics to follow-up could consist of e.g.:

1) Total costs per population
2) Personnel costs per population
3) Work-space related costs per population

4) Treatment costs per consultation or visit

3. Methodology

The research is conducted on thirteen health centers in three Finnish municipalities. Of the four health centers in each municipality, two are managed by the municipality themselves and two are outsourced to private service providers. In one municipality there is three public and two private health centers. As the municipalities generally only have a few outsourced health centers, the privately managed centers are selected first and the publicly managed are selected to be as similar as possible in regards of population size and other factors. The municipalities had the final decision on regards to the health center selection.

The research is primarily a benchmarking study. As Camp and Tweet (1994) noted, benchmarking can provide value through both quantitative and qualitative methods. In the thesis, both methods are utilized. First, the data on health center performance was gathered from the subjects of the study in order to create a quantitative benchmarking baseline and basic understanding of the level of operations of the organizations. The goal was to find differences on different metrics based on the location (municipality), provider type (public-private) or other variable. Second, semi-structured interviews of the health center management was conducted in order to get better understanding on the differences of service processes and management systems.

3.1. Quantitative data analysis

The research is first conducted by comparing the performance of the health centers based on their quantitative accounting data on quality, accessibility and cost metrics. The three components are divided based on prior Finnish studies on primary care performance, e.g. Sinervo et. al. (2016) and Tynkkynen et. al. (2016). This is in contrast to international studies, where accessibility is often defined as a part of quality, e.g. Starfield et al. (2005) and WHO (2004).

The data for the analyses is collected from the municipalities that operates the health centers or purchases the primary care services. Further, the metrics are decided together with the municipalities in order to confirm the availability and reliability of the data from each health center. The target for the comparisons is to find differences in the performance of the health

centers in one or more of the measured areas. In order to secure validity and comparability, all of the data used is from the purchaser, i.e. municipality, meaning the private provider has not provided any of the data presented.

Due to limited availability of data, no adjustments regarding population demographics is made. Therefore, the data is not necessarily completely comparable and adjusted figures could provide more accurate view of the production of the health centers. Regardless, the data should provide a useful overview for benchmarking purposes and create understanding, whether the health centers operate differently, thus answering the first research question.

As the data is collected and presented in different ways in different municipalities, the noticed differences are further explained and commented on. Due to this, the comparisons are direct comparisons of single metrics as more sophisticated sensitivity analyses would possibly provide little information.

3.2. Semi-structured interviews

In addition to the comparative study, there will be semi-structured interviews of the health center management. The people requested for interview included the management of the health centers studied, mostly the managing physician as well as the managing nurse in some instances. Additionally, the upper management responsible for their health centers from every operator was interviewed, i.e. the upper management of the municipalities and the sole private provider. Due to the COVID-19 outbreak, few of the health center management interviews was cancelled.

The interviews were conducted mostly by phone, whereas some interviews were conducted in person. A pre-set interview guide (attachment 1) was utilized in the interviews, whereas the discussion was allowed to flow freely around the topics. The interview guide was based on interview guide of a simultaneous Swedish study made by Anna Glenngård, which was translated and adjusted for Finnish purposes. The guide was divided into seven subjects including:

1) The background of the interviewee
2) The background information on the health center
3) Purpose and objectives of organization

4) Quality and innovations
5) The design and use of management controls
6) Production and productivity
7) General views on primary care management and public-private differences

The goal of the interviews is to find factors explaining the possible differences found in the comparative study. Additionally, the focus is on the different management models of the health centers in order to possibly identify best practices for the service production. The study primarily looks on the production aspects of care and the clinical aspects is mostly overlooked due to lack of medical expertise.

4. Results

4.1. Analysis of quantitative data

4.1.1. Population served by studied health centers

The served population of the health center is a figure affecting to many areas of operations from allocated resources to patient consultation figures and others. As such, the overall figures regardless of the metric should be in contrast to the size of the served population. Although more optimal benchmarking set-up could lie with health centers with less varying population, in the current circumstance the variance is quite large. As is, the primary divider of the metrics provided in the study is the allocated population, which increases the importance of the information. Additionally, the year-to-year stability of the population served diminishes its effect on the changes in the metrics. Therefore, it should be consistent and reliable factor to adjust the total figures of health centers.

The served population of the health centers can be seen from table 1 ordered primarily by the operating municipality and secondarily from largest to smallest. The health centers starting with "OL" refers to the outsourced providers. The same naming practice will be applied later as well. Due to significant changes in the served population and operating procedures, the latest data from "Matinkylän terveysasema" and "OL Iso Omena" is and will later be from 12/2018. As seen from the table, the size of the population served varies between the health centers as well as within the municipalities quite much. Regarding the sizes, the health centers can be roughly divided into three groups:

1) Small: Population <10 000, 3 health center, 2 private and 1 public, all in the same municipality.
2) Medium: Population 10 000 – 25 000, 6 health centers, 4 private and 2 public, in 2 of the municipalities.
3) Large: Population >25 000, 4 health centers, all public, in all of the municipalities.

		Population served, 9/2019 or latest known figure
Samarian terveysasema	Espoo, public	38311
Matinkylän terveysasema	Espoo, public	22180
OL Iso Omena	Espoo, private	21282
OL Espoontori	Espoo, private	14785
Keskusta, Jyväskylä	Jyväskylä, public	36766
OL Tikkakoski	Jyväskylä, private	5138
OL Korpilahti	Jyväskylä, private	4790
Uurainen	Jyväskylä, public	3712
Tammelakeskus	Tampere, public	37204
Linnainmaa	Tampere, public	31207
Hervanta	Tampere, public	20010
OL Keskusta	Tampere, private	14556
OL Hervanta	Tampere, private	12814

Table 1. Served population of the researched health centers.

4.1.2. Patient consultation volumes

As health centers primary purpose is to improve the well-being of their patients and population, and the work is traditionally done through patient consultations, the consultation volumes could provide useful insight to how the health centers are operating. The consultations can be done through e.g. physical visits, by phone or other electric communication. As different health centers prioritize different consultation methods, the absolute numbers might not provide any definite conclusions regarding the quality of operations. Additionally, different health care needs require different action and the data collection standards might differ between municipalities. Therefore, the consultation volumes provide information on the operating model rather than value for ranking purposes.

Chart 1 shows the total amount of patient contacts per population served for the study period, 2017-2019. The patient contact numbers are in few instances adjusted into complete years' figures based on the information available. The adjustments are made for 2019 for all the health centers that are studied in said year due to the information being available for 1-9/2019, therefore the adjusted figure being "amount of contacts 1-9/2019"/9*12. Similar adjustment for the outsourced health centers in Tampere is done for 2018 due to their operations beginning in August 2018. If later a figure is said to be adjusted, the same principle applies unless mentioned otherwise.

As seen from Chart 1, there are rather significant differences in amounts of contacts between the municipalities. This is most likely due to differences in data collection standards between the municipalities. The total contacts include visits to the health centers, phone contacts and electronic contacts, whereas it differs whether there is data available regarding all of the contact sources. Therefore, comparing total contact numbers between the municipalities is not reasonable, whereas within the municipalities the figures should be comparable.

Additionally, as seen from chart 1, the two public health centers in Jyväskylä are drastically different in contact figures and the number of patient contacts in the small public health center is much closer to the outsourced health centers the figure. In addition, the figure for "OL Keskusta" in Tampere is significantly larger compared to the other health centers in the municipality. This is partly due to their high number of phone contacts, especially made by nurses.

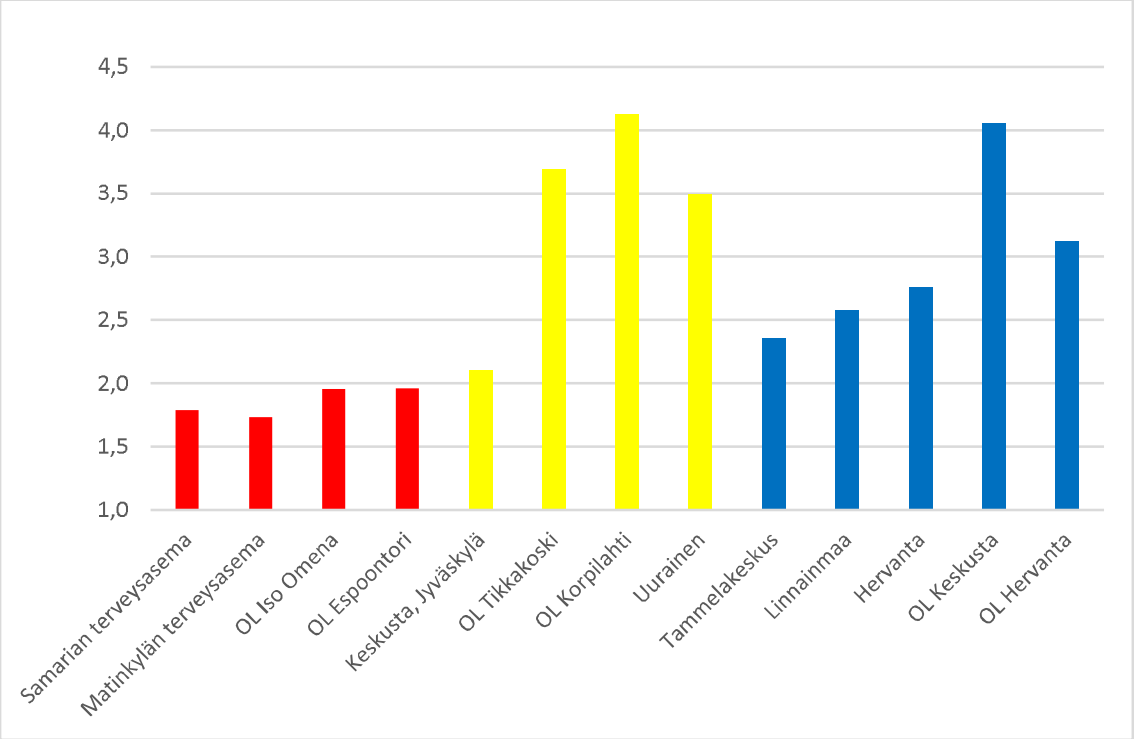

Chart 1. Yearly patient contacts/population served, 2017-2019, adjusted figures.

Chart 2 shows the total amount of visits per population served, i.e. phone and electronic contacts removed. In contrast to chart 1, the differences are slightly smaller between the municipalities, whereas the amounts still differ rather significantly amongst the health centers. Again, the differences between Jyväskylä's public health centers is notable and the small public provider is more in line with the outsourced providers. Additionally, there is significant differences amongst the health centers in Tampere within the public providers.

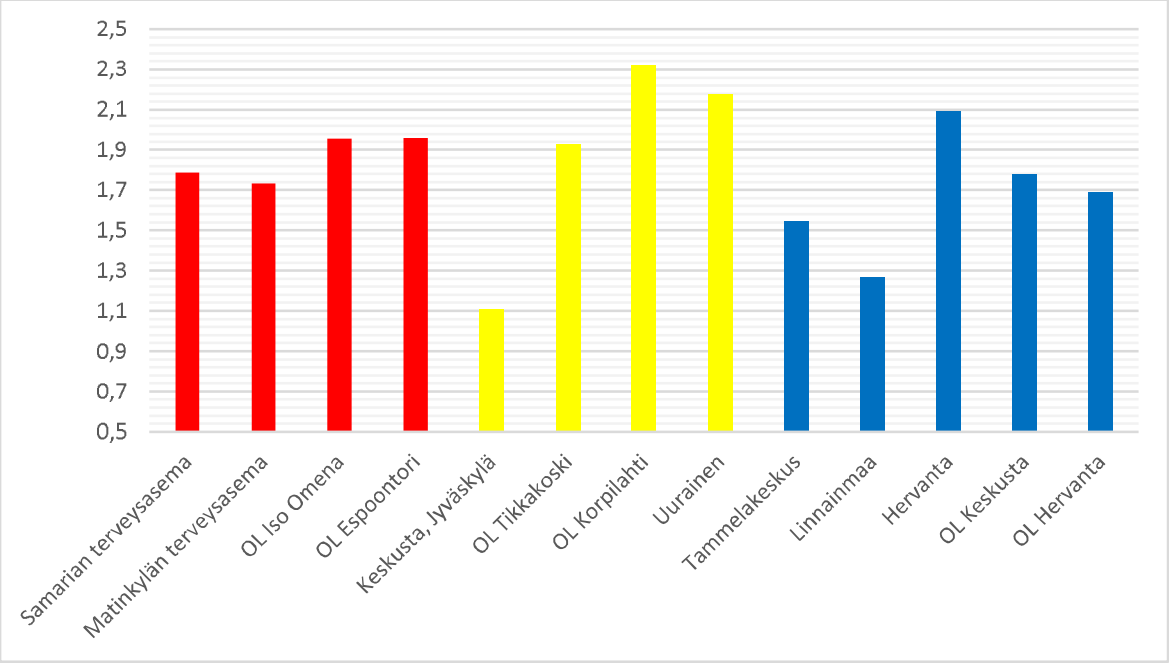

Chart 2. Total visits/population served, physicians and nurses, adjusted figures, 2017-2019.

Chart 3 shows the total physician visits per population served. The data for physician shows that both Espoo and Tampere have rather close figures for public and private providers whereas in Jyväskylä the private providers have significantly higher number of visits. Additionally, the figures in all of the municipalities are closer when nurses are excluded.

A notable change during the measuring period is the significant drop in patient visits in Linnainmaa's health center, from 17 654 yearly visits to 13 711 visits whereas simultaneously the electronic consultation figures increased around same amount, from 1 954 to 4 813. This is likely due to changes in operations.

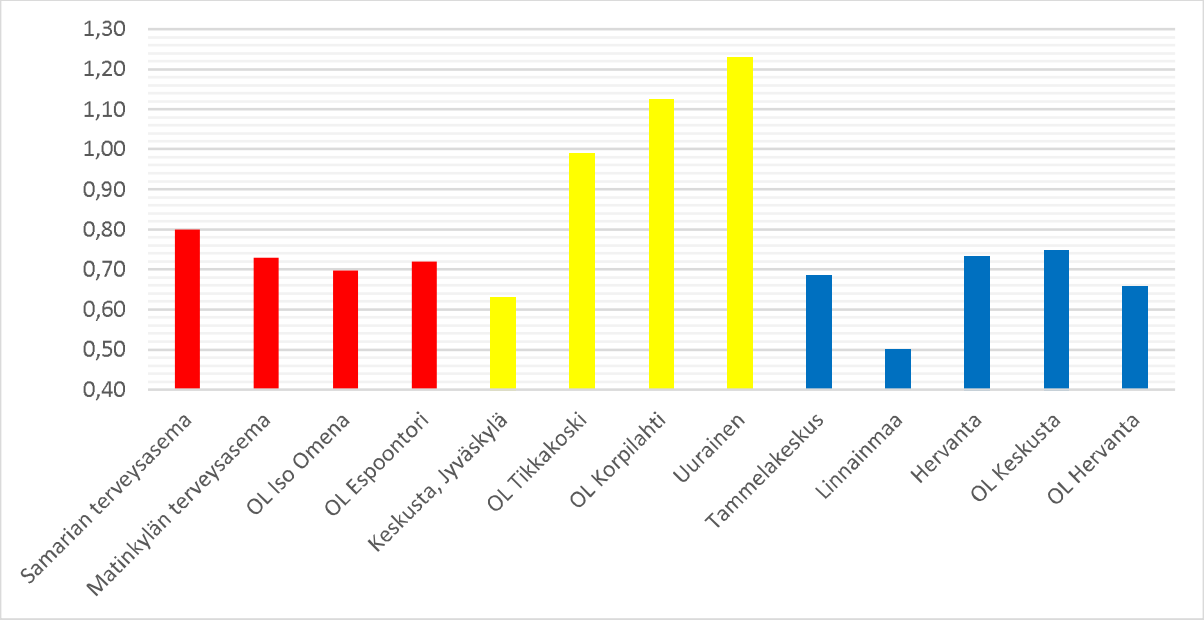

Chart 3. Total visits/population served, physicians, adjusted figures, 2017-2019.

Chart 4 shows that the outsourced providers tend to have less physician visits compared to overall visits. This supports the mentioned differences between charts 2 and 3. This difference is especially noticeable in Espoo and Jyväskylä, with the difference being around seven percentage-points in both municipalities. In Tampere the share of physician visits is rather similar between public and private operators: on average the outsourced health centers have one percentage-point higher share of physician visits. On the other hand, in Tampere the differences between private and public operators vary as the public health centers have highest and lowest relative amount of physician visits.

Generally, as nurses' salaries are lower than physicians, consultations made by nurses require less resources from the health center compared to physician consultations. Regarding analysis on which providers operates better, the data on visit distribution provides little to no conclusions. Due to possibilities of organizing differently and different needs of patients, the larger amount of physician consultations is not always necessary better or worse. Regardless, this could be an explanatory factor in e.g. resource consumption of the health center.

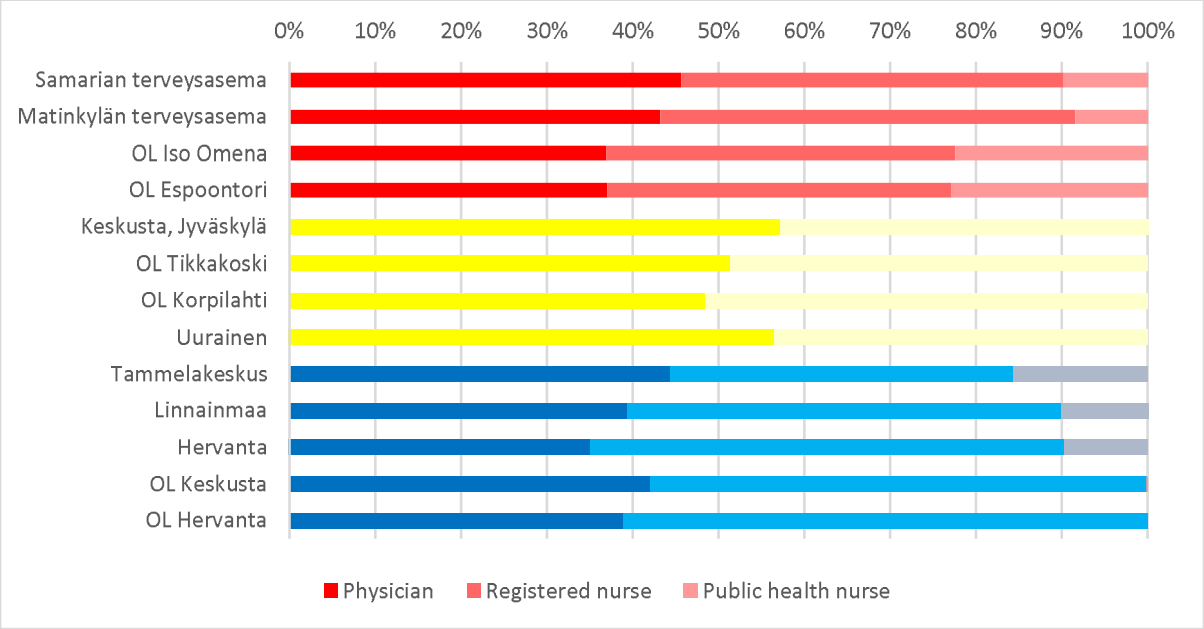

Chart 4. Distribution of visits by title, 2017-2019, health centers.

Chart 5 shows the distribution of reserved non-urgent consultation times in Espoo's health centers. As seen from the chart, majority of the consultation times for all of the health centers is 30 minutes. It is noteworthy that the public operators tend to provide large amounts of longer consultation times, e.g. 40 minutes and 60 minutes, whereas the outsourced operators provide high numbers of shorter times, e.g. 15 and 20 minutes. Due to the data not being available from other municipalities, it is not possible to make conclusions out of their operations, but similar results could arise if researched.

Doing statements regarding quality of the care from data in chart 5 is difficult due to the same reasons provided regarding charts 4. Regardless, the data poses a question whether the public operators provide too long consultation times and therefore causing inefficiency in their service production. Andersson and Mattsson (1994) noted, the consultation time have little to no effect on the quality of care in context where the consultation times are already generally long, i.e. over 20 minutes. On the other hand, the shorter consultation times of private providers could sometimes lead to double-bookings, where the same patient have two different consultations due to the reserved time being too short and therefore artificially increasing the number of contacts. This double-booking would probably show in numbers of repeated patient visits if it happened consistently.

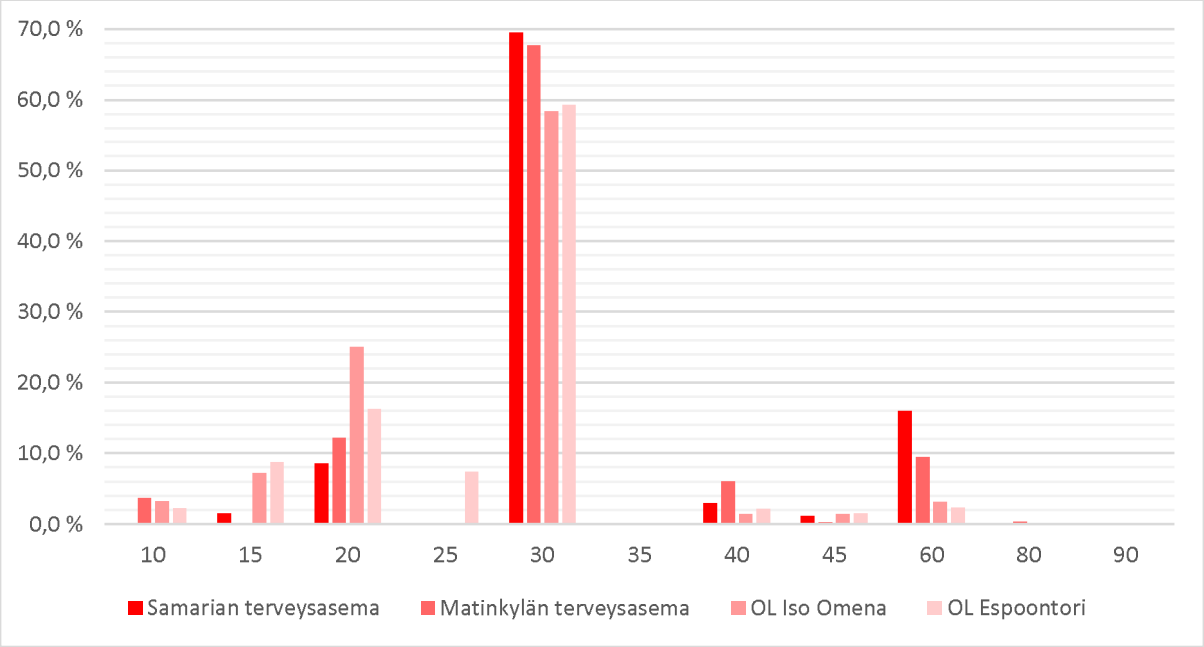

Chart 5. Distribution of consultation times, physicians, 2017-2019.

Table 2 shows the total number of patient visits over the number of patients per year. As seen from the table, there is no consistent relationship between public and private providers amongst the cities; in Espoo the private providers have fewer repeating patients whereas in the other municipalities the private providers have more or similar numbers of repeating patients per year.

In table 2 the figures for Tampere's outsourced providers for 2018 are excluded due to them not operating the whole year. Additionally, it should be noted that the 2019 figures are not comparable to previous years due to the period being shorter. In this instance, the figures are not adjusted to full year.

As suggested in analysis of chart 5, the high number of shorter consulting times could lead to double bookings or increased number of repeated customers. This claim is not supported by the data in table 2, as the private operators in Espoo that have shorter consulting times have less repeated customers compared to the reference group of public operators within Espoo.

Patient visits/number of unique patients			
	2017	2018	2019
Samarian terveysasema	2,3	2,3	1,9
Matinkylän terveysasema	2,3	2,3	
OL Iso Omena	2,0	2,1	
OL Espoontori	2,1	2,0	1,7
Keskusta, Jyväskylä	1,9	2,0	1,7
OL Tikkakoski	2,1	2,1	1,9
OL Korpilahti	2,3	2,1	1,9
Uurainen	2,4	2,4	1,7
Tammelakeskus	2,1	2,2	1,9
Linnainmaa	1,9	1,8	1,7
Hervanta	2,1	2,1	1,8
OL Hervanta			1,9
OL Keskusta			1,9

Table 2. Patient visits/unique patient, physicians, yearly figures.

4.1.3. Accessibility and waiting times

As mentioned previously, access to care has been found to be the most pressing problem in Finnish primary care. Accessibility is most commonly measured in Finland by T3-figure, defined as the median of the third available non-urgent physicians' consultation time in the health center at a moment in time. Additionally, accessibility can be measured with other metrics such as the actual time between first contact and the consultation, whereas data on such metrics is not always routinely collected and measured.

Charts 6 show the averages for T3-times for the health centers. As seen from the charts, the variance between the health centers is rather significant as the best performing centers have times below 10 days whereas the worst ones have over 30 days. The deviation of the monthly figures is rather large within the health centers. Additionally, the variance amongst the municipalities is significant, whereas the private providers tend to operate consistently better than the public providers within their municipality. Only one public operator has lower figures compared to the private operators within the same municipality.

As suggested by the data, the private operators would generally be able to provide non-urgent care faster than the public operators. As accessibility is found to be one of the largest problems within Finnish primary care currently, finding underlying reasons why and how the private operators are able to have lower figures would be important. As the problem is commonly highlighted in research and public discussion, it is possible that the private providers allocate more resources to improve their T3 figures and therefore better justifying the co-operation with the municipalities.

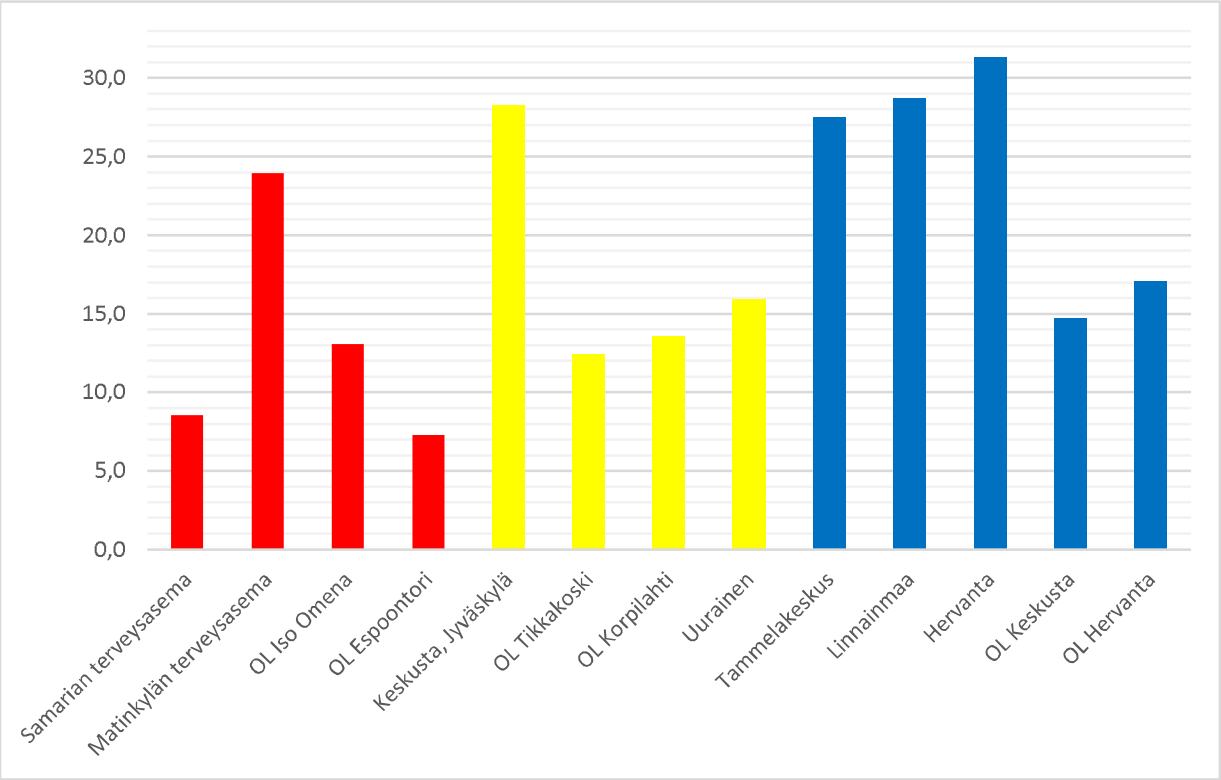

Chart 6. T3-time average, physicians, 2017-2019.

In addition to T3-times, Espoo was able to provide the average realized non-urgent waiting times for the health centers. In chart 7 the non-urgent waiting times is presented with T3-times. As can be seen from the chart, the realized waiting times tend to be a little higher than the T3-times. In turn, one provider has slightly lower figures in realized waiting times, which could suggest that they are operating better than the T3 figures would suggest. Other thing to note is that the operator "OL Iso Omena" improved their T3-time drastically between 2017 and 2018, from 15,6 to 10,6, whereas their realized waiting time didn't change at all. This could suggest that T3-time is gameable, whereas the assumption would require more support.

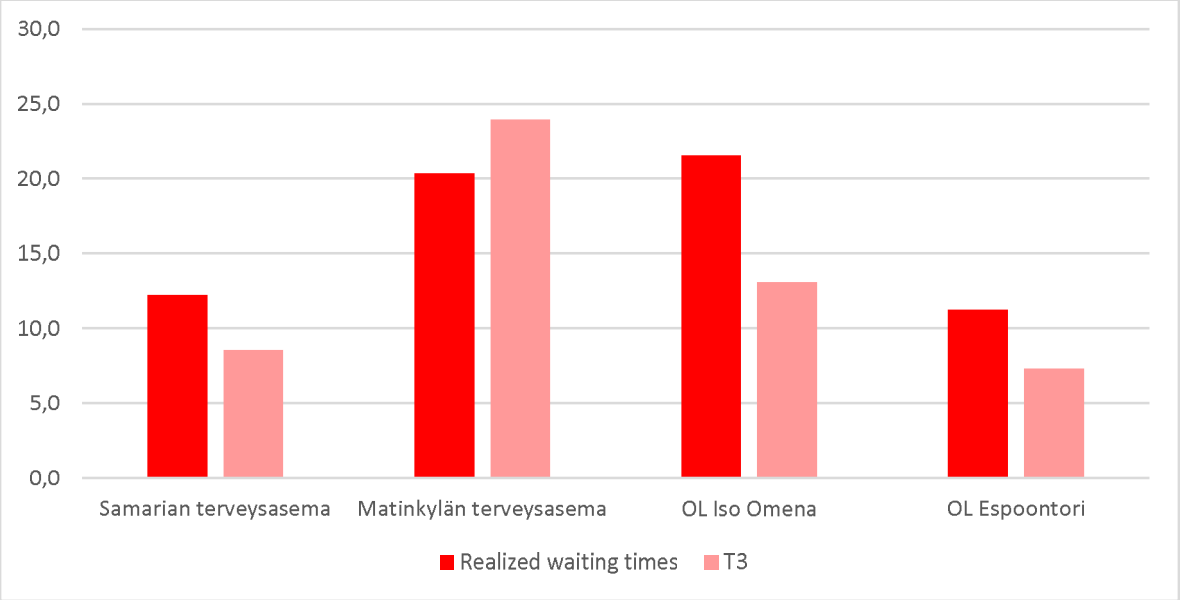

Chart 7. Realized non-urgent waiting time averages and T3-times, days, physicians, 2017-2019.

4.1.4. Patient satisfaction

As noted previously, patient satisfaction in health care production might not be optimal metric for quality of care due to the complexity of the interventions. Nevertheless, the differences and changes in patient satisfaction could highlight some successes or failures in regards of patient treatment. As a readily available and straightforward metric, it is an important component while benchmarking. Additionally, as other quality related metrics are not routinely gathered, patient satisfaction can provide some insight.

Patient satisfaction is followed with slightly different methodologies between the municipalities, which create some problems regarding the municipality to municipality comparability. Chart 8 shows the NPS figures of health centers in Tampere and Jyväskylä, whereas the Happy-or-not figures for Espoo is provided in chart 10. Chart 9 shows the grouped averages for health centers in Tampere and Jyväskylä. As seen from the charts 8 and 9, the largest differences are found between the municipalities with Jyväskylä health centers generally operating better than the one's in Tampere. Additionally, it is notable that the private operators have been able to improve with their NPS figures in both Tampere and Jyväskylä, whereas the performance of the public operators have remained rather stable. Still with the improvements, in Jyväskylä the public providers had higher NPS figures for 2019 than the private providers.

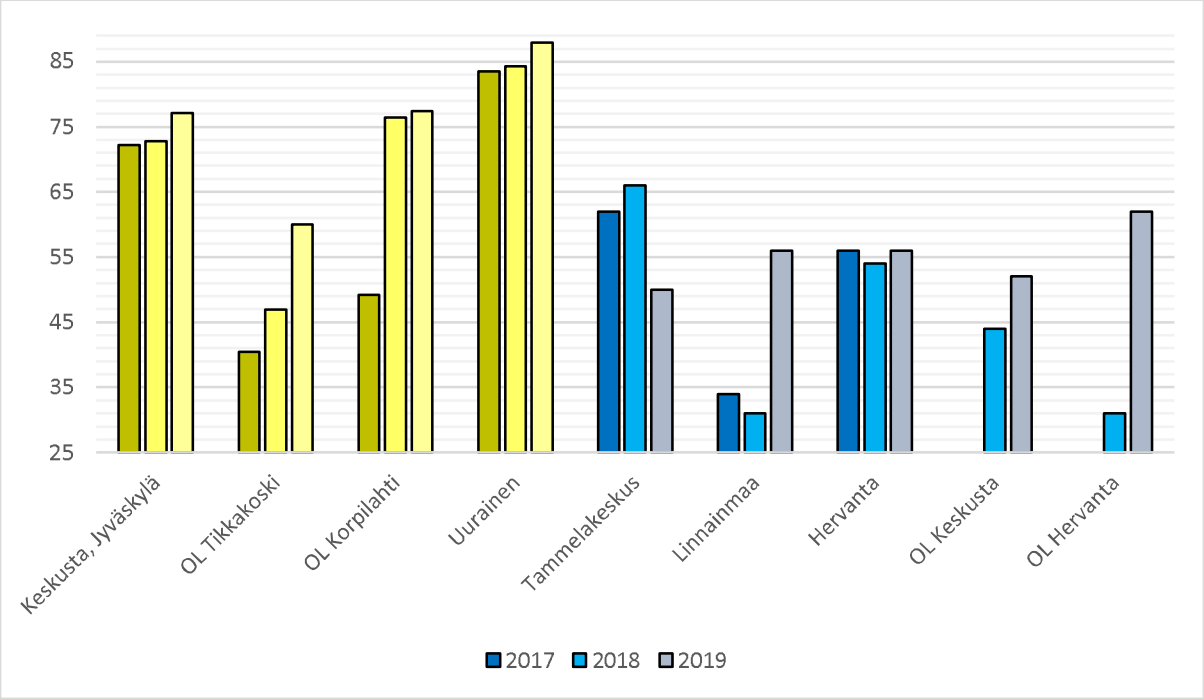

Chart 8. NPS averages for the health centers, 2017-2019.

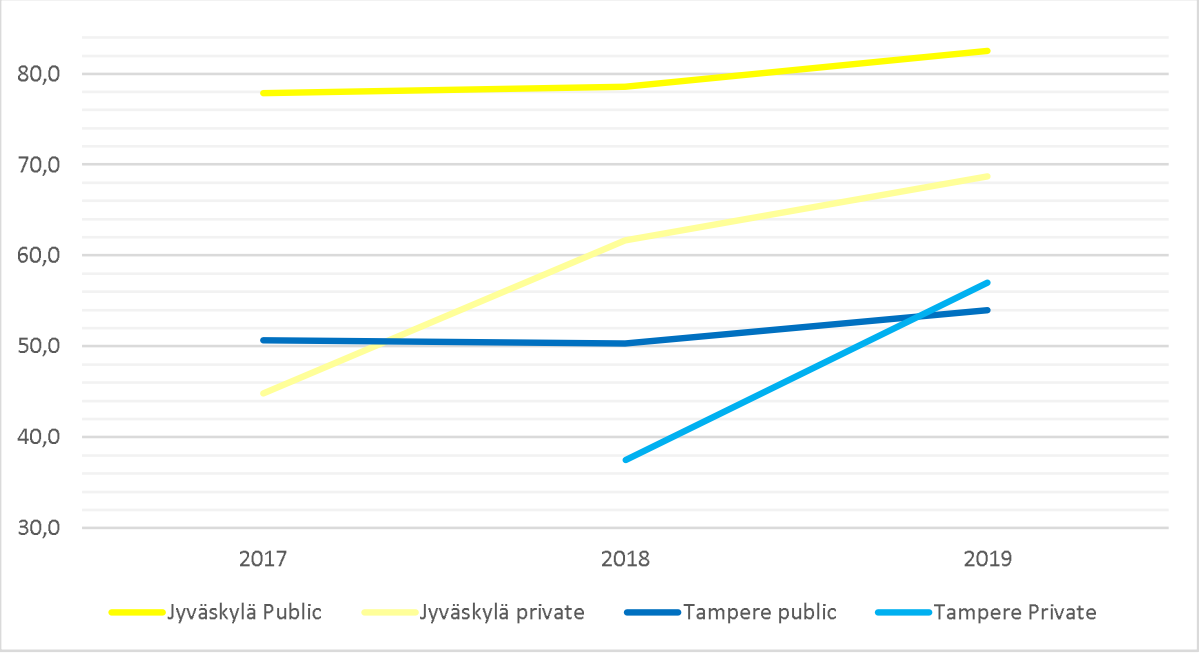

Chart 9. NPS averages for the health centers, grouped by municipality and public-private status, 2017-2019.

Chart 10 shows the Happy-or-not averages for Espoo's health centers. As mentioned, the methodology of the metric differs from NPS and therefore is not comparable. Still, within Espoo three of the health centers seem to be quite even on the metric, whereas one private

operator has little lower figures than the rest. It should be noted that the figures are overall high and the lowest 2017-2019 figure is 92% of the highest, which suggest small variation amongst the figures.

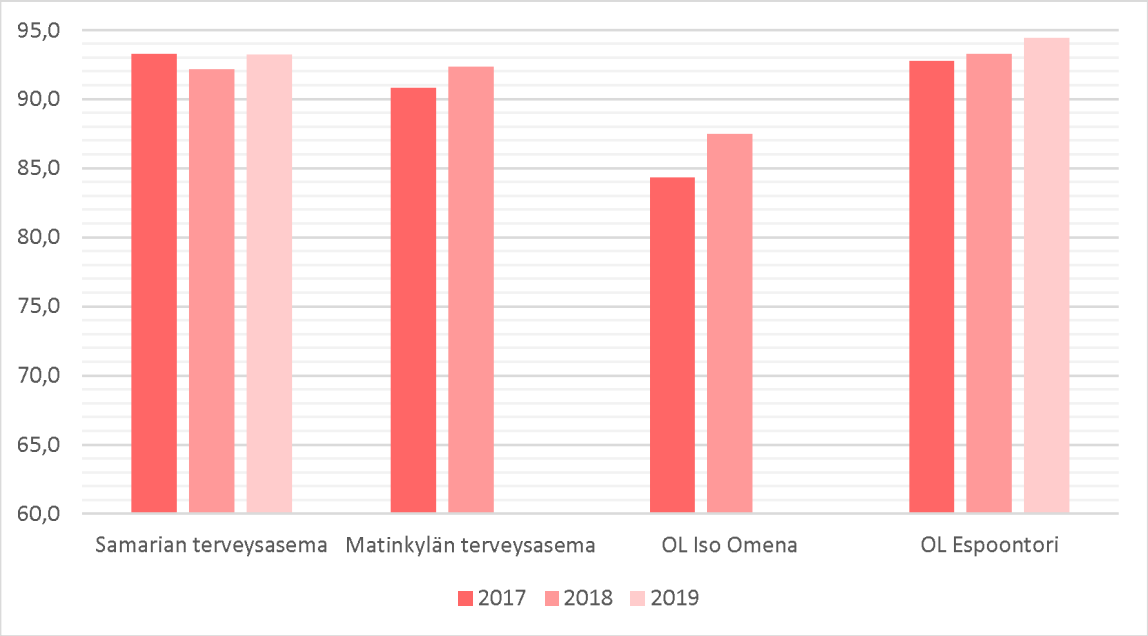

Chart 10. Happy-or-not averages, Espoo health centers, 2017-2019.

4.1.5. Referrals to specialty care

Referring patients to specialty care and serving the individual health care needs of patients is a crucial component of primary care. As the health centers often stand as the first point of contact, they face wide scope of medical needs, some of which can be fulfilled at the health centers and some requiring specialty care. As such, low number of referrals cannot be interpreted as high quality care. On the other hand, high number of referrals might suggest inability to fulfill the health care needs in the health center. Therefore, the amount of referrals might provide little face value, but especially high figures should be looked at in order to improve efficiency.

Charts 11 show figures of referrals to specialty care. As seen from chart 11, most of the health centers vary between 75 to 115 referrals per 1000 people population. The exception to this is the Uurainen health center, which had extremely low figures. When asked, there was no direct reason for the low figures. Additionally, there was no data for Jyväskylä in 2017. Otherwise the referral figures tend to be close within the municipalities, though in Tampere and Espoo

the private providers tend to have little less referrals. The differences between municipalities can be partly explained by different practices in the specialty care districts the municipalities belong to as well as population differences. Otherwise, the referral figures provide some insight to what extent the primary care providers are able to fulfil the health care needs of their patients, whereas due to differing circumstances no conclusions on quality or other factors can be made.

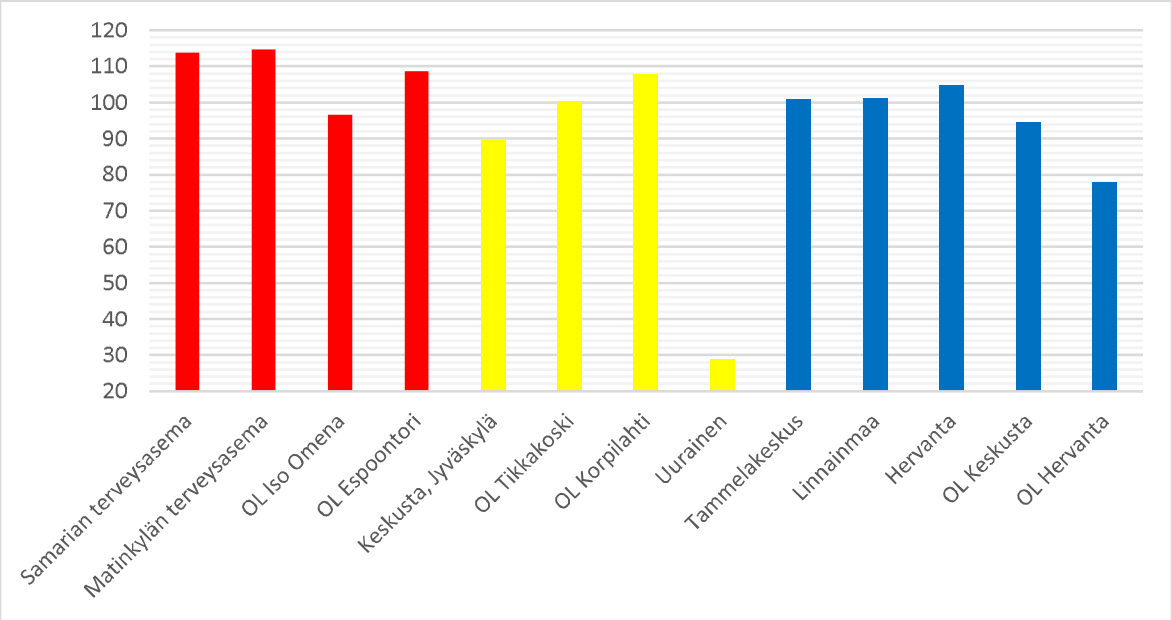

Chart 11. Referrals to specialty care per population served of 1000 people, adjusted figures, 2017-2019.

4.1.6. Imaging volumes

Medical imaging volumes can provide vital information on health centers operations when in context. High figures per consultation or population served might suggest inexperience of physicians or other factors that cause high numbers of further medical studies to be made if the underlying variation and patients' needs can be standardized. Due to lack of data, here it is not possible to evaluate the reasons behind the differences, whereas the large sample size should lower the effects of random variation. Still, it is difficult to make conclusions out of the figures. Still, high imaging numbers should increase the costs of the health center and at least impact the cost-effectiveness of care.

Chart 12 shows the amount of imagings per population served for the health centers. As seen from the chart, most of the health centers do between 95 and 135 imagings per year per 1000

population served. A few health centers are exceptions, with “Keskusta, Jyväskylä” and “OL Hervanta” having slightly lower figures and Uurainen having significantly higher figures.

On municipal basis, the figures in Espoo tend to be little lower for the private providers. On the other hand, in Jyväskylä the imaging figures are lowest and highest in public health centers. In Tampere the private providers have little lower figures on average, albeit one private provider has the second highest figures. Overall, the variation on the figures is rather large and further conclusions on the differences amongst provider types should not be made.

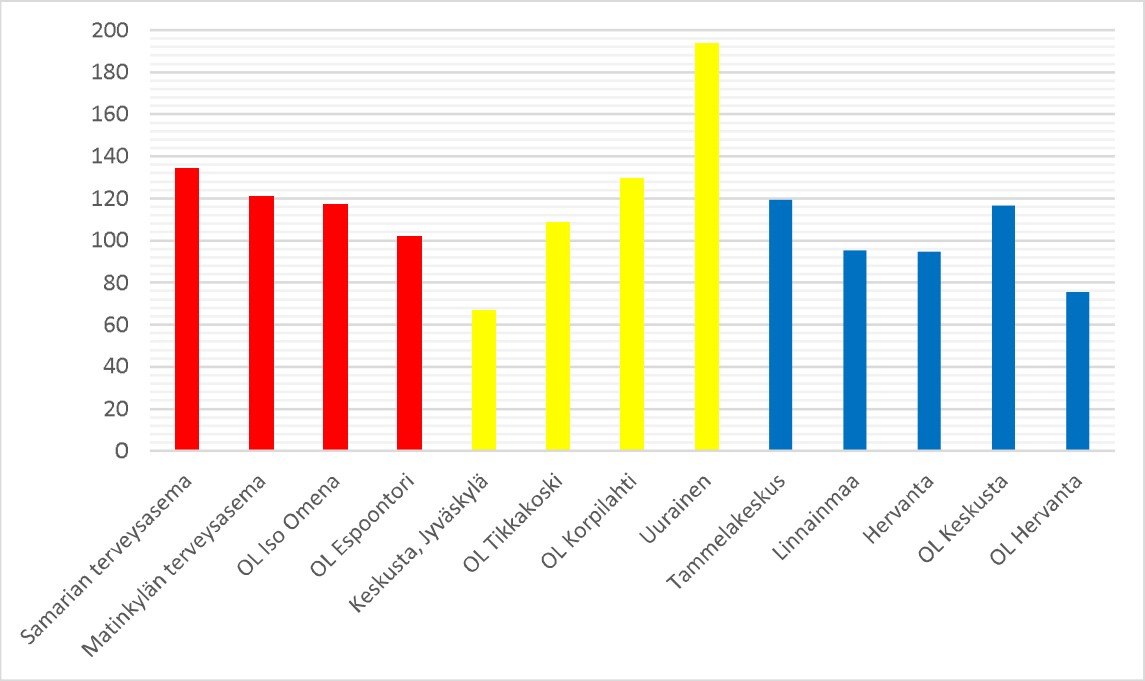

Chart 12. Imagings per population served of 1000 people, adjusted figures, 2017-2019.

4.1.7. Cost of care

Cost of care and cost efficiency of care are important factors for success of a health center. As the resources for operations are limited, the ability to produce more or better-quality services with same resources increase in importance. Still, defining the costs and comparable metrics for efficiency is difficult or impossible due to differences in data collection. First, it needs to be noted that the price of outsourced service for the purchaser does not equal the cost of production. In this instance, the price and other costs occurred to purchaser is the comparison value used for the private health centers, and it was confirmed the health centers are generally profitable. Therefore, the actual cost to produce services is lower than later presented.

Second, the costs later presented for public providers does not include all of the administrative costs and indirect costs that are related to the health care production; therefore, the total cost of care might be little higher than presented. Generally, the costs presented consists of personnel expenses, treatment-based costs and workspace related costs with some minor expenses added. Overall, due to these problems and lack of data, the cost of care comparisons is not possible, whereas it is possible to examine a close estimate of the costs occurred to the purchaser for the service production. This answers to a different question than cost-efficiency but could provide some useful value to the purchaser.

Chart 13 shows the costs to purchaser of the health centers related to population served. The 2019 adjusted figures are calculated with the assumption that the costs would occur in linear fashion. Therefore, the 2019 figures are not completely accurate. As seen from the chart, there are major differences between the health centers both within the municipalities and the type of service provider. As a trend, the private providers seem to be little more expensive compared to the public providers, whereas the trend is not consistent. Still, the costs of the private providers seem to have lowered more compared to the public providers over the measuring period.

For few of the health centers, there are some exceptional cost-lines compared to the references in their municipality. First, for "OL Korpilahti" the workspace related cost per population served, mainly rent, is around three times higher than the other health centers in Jyväskylä, difference of 47 EUR per person to 14-17 EUR per person. Second, the health centers "OL Iso Omena" and "Hervanta" have around twice the workspace related costs compared to the other health centers within their municipalities, difference of around 21 EUR per person to 8-9 EUR per person (Tampere) and 20 EUR per person to 12 EUR per person (Espoo). As generally the municipality provides the building and spaces the health center operates, the health center has little to no ability to affect the costs related. Therefore, it is an aspect of cost-efficiency outside the reach of the direct management.

Due to reasons mentioned above, it is not necessarily feasible to make definite assumptions or claims about the operational cost efficiency of the health centers based on their cost metrics. Naturally, benchmarking can be a beneficial tool to realize potential areas for improvements internally, whereas with the data available no definite claims can be made. Cost of care and the available resources for service production are a crucial part of the organizations objectives, but differing circumstances might explain the differing results. Regardless, the cost-efficiency of

care is likely a restrictive feature; low cost-efficiency leads to lower levels of productivity or quality as the resources are consumed faster.

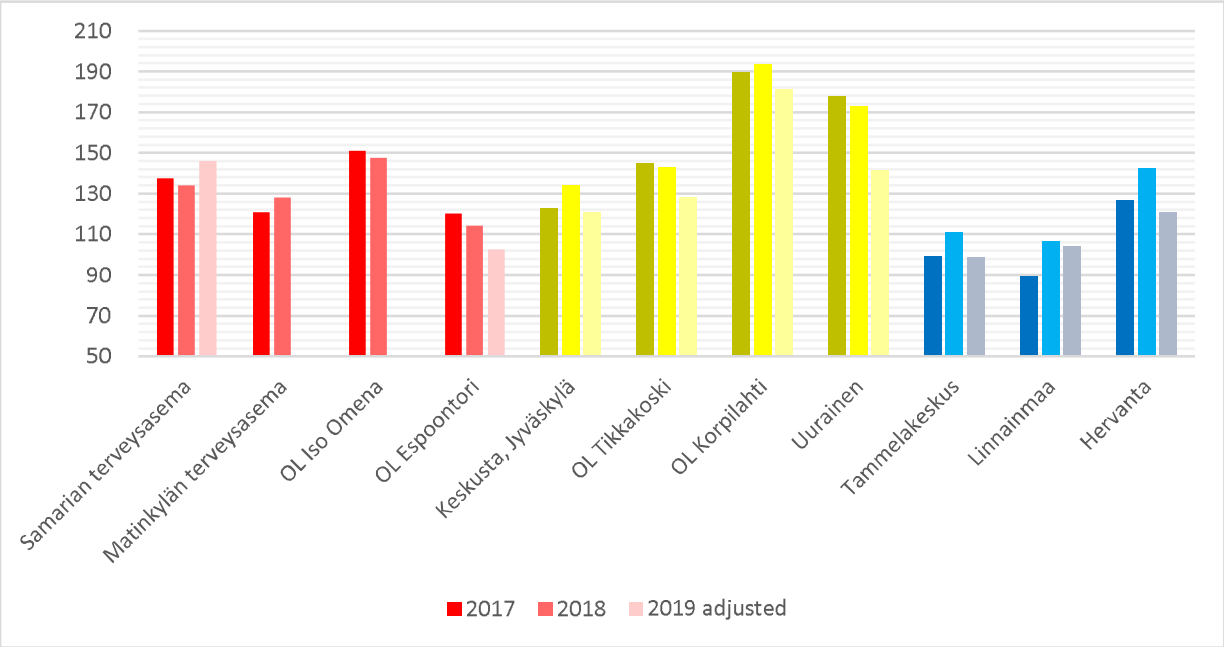

Chart 13. Costs for purchaser of the health centers per population served, yearly figures.

4.2. Interviews of the health center management

4.2.1. Background of the interviewees and health centers

Interviews of the health center management were conducted from February 2020 onwards. The interviewees included the management of every health center studied previously for 2019 as well as the upper primary care management of the municipalities and the upper management of the sole private service provider company. Later, the city leadership is generally referred as "upper management" or similar term, whereas the managers of health centers are referred as "management", "health center management" or by the name of the health center. Table 4 shows the interviews conducted and the education or background of the interviewees. As seen from the table, the management consists mainly physicians, whereas the management of nurses is often made by a nurse. It is notable, that the same person is managing the health centers "OL Korpilahti" and "OL Tikkakoski". Due to the COVID-19 outbreak, some of the interviews were not conducted.

Health center	City	Interviewed?	Public/private	Education/Background
City leadership	Espoo	Yes	Public	Physician
Samaria	Espoo	Yes	Public	Physician
OL Espoontori	Espoo	No	Private	
City leadership	Jyväskylä	Yes	Public	Nurse + Management education
Keskusta	Jyväskylä	No	Public	
OL Korpilahti	Jyväskylä	Yes	Private	Physician
OL Tikkakoski	Jyväskylä	Yes	Private	Physician
Uurainen	Jyväskylä	No	Public	
City leadership	Tampere	Yes	Public	Physician + MBA
Hervanta	Tampere	Yes	Public	Physician / Nurse (2 people)
Linnainmaa	Tampere	Yes	Public	Physician / Nurse (2 people)
Tammelakeskus	Tampere	No	Public	
OL Hervanta	Tampere	Yes	Private	Physician
OL Keskusta	Tampere	Yes	Private	Physician
Mehiläinen group leadership		Yes	Private	M.Sc. Econ

Table 3. Interviews conducted and education/title of the interviewees.

The interviewees were asked whether they find any patient characteristics that needs to be noted when compared their health centers to others. Higher share of immigrant population was the most common characteristic mentioned (Samaria, Hervanta, OL Hervanta). The difficulties this poses include need for translation and/or translator, which makes the patient consultation more difficult and time consuming. Additionally, higher share of elderly population was mentioned (OL Keskusta, OL Korpilahti). Finally, the three small health centers in Jyväskylä operate in more rural areas compared to other health centers (OL Korpilahti & Tikkakoski, Jyväskylä Upper management).

In addition to differences in patient demographics, it was noted that some health centers have broader service mix as some specific treatments are centralized to certain health centers. Samaria noted that they provide multiple centralized treatments in Espoo, e.g. fracture treatments. Hervanta provides first-contact services for every immigrant in Tampere for first 6 months. Some centralization is done also in Jyväskylä, whereas it was not specified what kind of treatments and to which health centers. Otherwise the basic service production is similar

amongst the health centers in a municipality and the outsourcing contracts are generally made to include the services a public provider would provide.

Regarding the personnel mix of the health centers, it seems that the public providers have higher share of physicians compared to nurses, the ratio being around 1 to 1,5 nurses per physician. For the private providers the estimated ratio is between 1,5:1 and 2:1.

Regarding the staff recruiting and retention, the private providers generally had less problems and they generally described the situation as good. The private health centers in Tampere noted some problems in 2018 due to the outsourced service provider changing, but the situation has improved since. OL Korpilahti & Tikkakoski management noted that the rural areas have problems with recruiting physicians, whereas they have been able to operate well regardless with different service model.

On the public health centers, the shared sentiment is that staff recruiting and retention is a large problem, perhaps the largest they currently have. Jyväskylä's upper management noted that the problems are large especially with physicians. Tampere upper management felt that the problem with retention and recruiting exists, whereas the larger problem is with nurses. Hervanta shared the sentiment of upper management, whereas the management of Linnainmaa felt that after their new operating model got going, the situation has improved drastically. In Espoo the general situation regarding physicians was described as rather bad, whereas Samaria felt that their current situation is good while noting that recruiting takes loads of effort.

4.2.2. Organizational mission and goals

When asked about the organizational mission and purpose, and whether it is clear, every interviewee answered yes. Further, the interviewees were asked about interface with specialty care and social work and focus on preventive care. The general sentiment was that the interface towards specialty care is clear, even though the instructions regarding referrals changes over time and the communication might sometimes be one-sided dictation. Espoo is an exception to this as they felt the interface and communication towards specialty care is lacking. Regarding preventive care, it was deemed important and it is focused on in patient consultations, whereas measuring the success is difficult. Additionally, it was noted that preventive care requires resources outside of the primary care system as well.

In regards of social work, every interviewee found some problems or lack of clarity. They noted that in recent years it has helped the operations of the health centers and co-operation with social work, that some social workers have been stationed in the health centers. Thus, the health care professionals are better able to utilize the expertise of the social workers in non-medical problems their patients might have as the patients often have multiple problems coexisting. Still, even when there have been developments deemed as positive, the co-operation could and should be developed further.

Next the interviewees were asked about the general goals and objectives of the organization as well as whether there are specific targets for the objectives. This brought major variation between the providers as the objectives and expectations seemed to be much clearer to the private providers. They have clearly defined targets which they strive to reach and improve on, the targets deriving from the purchaser, i.e. municipality, and from their own organization. E.g. one private health center manager mentioned "We have 12 target-points in our quality deposit which every single employee can list while sleeping". Additionally, the private organization has large amounts of performance data regarding their targets readily available for use of their management and employees.

As for the public side, there are targets and objectives for the organizations, whereas those don't seem to be as clearly defined. Some objectives mentioned include e.g. "providing quality treatment" and "effective and cost-effective care", which are rather broad objectives. Some targets mentioned include, e.g. patient satisfaction and T3-times. Still, there were differences between the municipalities. On upper management level it seemed that Jyväskylä has the largest focus on target setting and follow-ups, whereas in Tampere it is still developing. Espoo seemed to have the least focus on targets on upper management level. On health center level Samaria seemed to be very target-focused and it was mentioned that they reach the targets by far the best in Espoo.

The differences in target setting suggest that the private organization has done more on developing the service process and operations management. The health centers that specifically highlighted that they often follow the targets set, i.e. private health centers and Samaria, also noted that they often reach the targets and therefore have good figures. Other example of reaching the targets is Jyväskylä's health centers that have very ambitious NPS targets, which have led to high figures. Still, it was often noted that these numerical, average based targets are well-suited to service procedural aspects, whereas target measures for clinical quality is more

difficult to produce. As an example of non-beneficial clinical target was mentioned average blood sugar levels of diabetic patients, which was set to strict level. This led to large problems as many patients experienced hypoglycemia.

When asked about who sets the targets for health centers, generally the targets are set by upper management of the organization or municipality. Additionally, the private providers have targets set by the purchaser. Samaria seems to be an exception to this as it was mentioned that they actively try to follow and use measurements not necessarily required by their organization. On the other hand, a private manager mentioned that they have too many targets to focus on at once, thus they pick few targets to specially focus on for each year.

As there are well-defined and strict targets for the outsourced providers set by the municipality, it could be imagined that similar targets could be set to their own production as well. Still, the understanding is that the same measures are not either set or followed for the public providers. As it seems that the health centers that have strict targets to follow achieve good results in service production metrics, i.e. T3-times and patient satisfaction, it could be argued that the public providers would benefit from clearer target setting and follow-ups in contrast to current situation.

Last, the when questioned whether the targets set conflicted with other targets, the general sentiment was that the targets support each other. There were some mentions regarding the financial targets conflicting with other targets, but it was also mentioned that through efficiency the targets can be achieved simultaneously. Additionally, it was notable that the public providers rarely mentioned financial targets, the financial side was often just seen as a constrain created through budgeting.

4.2.3. Managing quality improvements and innovations

The importance of quality improvements and innovations was generally shared with the health center management. When asked about the way innovations are managed, there was some variance, especially regarding the health centers autonomy to try and test new service models. In every private health center, the sentiment was shared that they have clear model provided by their organization that they should operate under. Past that, the private health centers have freedom to try new innovations and share the best practices with their health centers around

Finland to create the best model for themselves under the general framework. Through this the health center management felt that they are agile with innovations and can adjust quickly.

However, on the public side there were much more variation. At least Samaria and Linnainmaa felt that they have been rather free to innovate and try new solutions. The management of those health centers have felt that the autonomy has supported the quality development and adjustments for their own situations. On the other hand, it was understood that some public health centers might be opposed to ideas and innovation that originates from other providers, which could stifle the development. Samaria's management especially mentioned that they have been innovative thus far and they would have a "culture of innovation", whereas the development from the municipality's side have been rather stiff and slow. Linnainmaa's situation was little different as it has been a pilot health center in Tampere experimenting with a new service model that is now being implemented to other health centers as well. The other public health centers said that the development and innovations have been managed from above and there has been less space for individual adjustments. The sentiment was that the municipalities want the health centers to operate in similar fashion, which leaves less room for experiments and innovations on the operating level.

Some differences arose in regards of benchmarking other operators. The private organization mentioned, that they actively benchmark within their own operators, against other operators in Finland as well as international references. Through this they try to implement the best practices found in order to develop their operations. On the other hand, the public providers did not mention benchmarking as a tool. Regardless, it was often mentioned that a reason for the outsourcing of the health centers was to create co-operations with different provider and thereby develop operations. Still, it was unclear whether the public providers have implemented the models of the private providers to their operations.

Last, it was mentioned multiple times by both public and private providers' management that the private providers tend to be ahead in development of digital solutions. Additionally, it was said that the private providers tend to be more agile as the health centers are generally little smaller and the organizational structure might be little lighter.

4.2.4. Management practices

Looking at the organizational structures and responsibilities of the management, there is some differences between the municipalities and the operators. First, in every municipality the upper level manager responsible for the health centers had background in health care, i.e. nurse or physician, whereas the private operators upper level manager had business background. Otherwise, the health centers tend to have a nurse responsible for the work of other nurses, often managing full time, and a physician managing physicians work, who has around 1,5 days a week allocated towards management and other time goes to clinical work. Of the interviewed health center managements, Samaria is an exception to this as the manager does administrative work full time. Additionally, the manager in Jyväskylä's private health centers manage three different health centers simultaneously and thus does more administrative work compared to others.

As for the differences in management style and use of management controls, the general understanding was that the role of immediate supervisor is more clearly defined in the private health centers compared to public ones. Additionally, the development of management is more of a focus in the private operators. This was highlighted when asking about the management control methods used in their day to day management: the private managers generally answered with well-defined and clear answers, whereas the public managers often used more broad terminology and answers. Also, the private organization seem to have more management education and management development compared to the municipalities and public operations. Notably, the development of management has been a focus in Tampere for the past year, which they felt have already provided promising results.

Regarding the management control methods, the largest difference seemed to be with communicating the performance data to individual level and giving feedback. The private providers have timely data regarding the performance of their employees available and followed constantly. The overall feeling was that the availability of this data has supported the performance of their employees as well as the management. Some information that is gathered and given feedback on was e.g. the number of visits, T3-time, number of referrals, laboratory studies and imagings. Samaria's management mentioned as well that they have similar feedback mechanisms in place and information management is one of the most important management tools they have. Regardless, the understanding was that this level of feedback was not used in other places around Espoo. Tampere on the other hand have developed systems in

order to enable such management controls, whereas the data and feedback currently is not communicated to employee level in the same extent. Regarding Jyväskylä, the data is mostly followed on health center level.

Overall, the dialogue within the health centers seemed to be the most common management method used. Most of the health centers had regular meetings where things are discussed together. Strategic planning was rarely mentioned, and it is generally not done much on the health center level. Also, guidelines were only mentioned once as a method, used extensively by the management of Jyväskyläs private providers, which have clear instructions for e.g. new employees. Still, the understanding is that all of the health centers would have some level of official guidelines in place.

Every manager was specifically asked about use of incentives. On public side every municipality have some small yearly rewards for successes and possibility for small gifts, e.g. movie tickets or brunch for the health center. Still, it was mentioned that the incentives play little role in their management methods. One public manager in Tampere even mentioned that a year ago they weren't aware of the possibilities to reward their personnel, which suggests lack of communication. Regarding incentives on the public side, it was suggested that the municipalities could provide e.g. tickets to municipal sports or culture venues and events. On the private side, the incentive packages are rather similar, consisting of small performance-based bonuses and some spontaneous rewards or gifts. The major difference seems to be the communication and use of such systems.

4.2.5 Managing production and productivity

Most of the health centers have some average number of visits or patient contacts their physicians have in a day. In general, the number varies depending on the experience level of the physician, with more experienced ones generally having more patients. Most of the time this number is followed to an extent, whereas its importance was often questioned as the number of patient visits is not deemed as a beneficial metric. Differing circumstances, patients and operating models mean that the higher number of patients does not directly lead to higher productivity. Still, the estimated number of patient contacts per physician per day differed between 8-12 depending on the experience of the physician.

Outside of patient contacts, the physicians work includes some office work, including renewal of prescription for patients, writing medical statements, studying laboratory results, writing referrals, reading emails etc. Most of the managers estimated that the time between patient consultations and other work is divided around 50-50. Regarding the nurses, around 80% of their work is direct patient work. Overall, there was little differences estimated regarding the division of time between the providers.

Larger differences arose, when questioning about the division of work between nurses and physicians. It was noted by the private providers, that in their health centers the responsibilities and work of nurses include much larger portion of the overall work compared to public providers. This is accomplished by few methods. First, the health centers tend to operate within teams, which include nurses and physician. Therefore, the physicians get to know the expertise level of the nurses they operate with over time. All of the private managers explicitly mentioned trusting the expertise of the nurses. In the model the nurses meet most of the patients and the physicians provide consultation when needed. For the consultations, there is a specific consultative physician, which also helps with the office work, e.g. renewal of prescriptions. In case the physician needs to see the patient, the nurse or social worker tries to prepare the patient as well as possible in order to save the physicians time. As the physicians tend to be the most expensive resource, some cost-efficiency and productivity is created this way.

In order to efficiently refer the patients to correct care, the success in evaluation of need for care is crucial. This was mentioned by both private and public managers to be a major difference between the providers. The private providers tend to be much stricter when it comes to giving consultation times to physicians, whereas public providers often provide appointments with lesser requirements. This was mentioned to be a partial reason for differences in T3-times. The way the private providers succeed in the evaluation of need for care is by strict guidelines and tool for the nurses in the first point of contact to use. The private managers agreed that this was the most important part regarding the success of their service production.

Similar team-based and nurse-led models as in private providers have been in use in Jyväskylä for a while now. Also, Tampere have been implementing similar model, that has been piloted in Linnainmaa health center in previous years. Espoo on the other hand haven't had such models due to lack of nurse resources. Some challenges faced with moving to the model have been with giving the appointments. It was especially mentioned by Tampere that as the first

contacts used to come through centralized appointment-center, the available physician times are given unnecessarily easily, which clogs the calendars of the physicians, therefore worsen the accessibility. In the Linnainmaa pilot the evaluation of need for care was moved back to the health center, which meant that they knew the patients and their resources better, which enabled better organization of work and service production. On the other hand, Espoo is moving to opposite direction and creating a centralized contact center, which caused skepticism regarding the success in the future.

Additionally, the recruiting was mentioned as a reason for productivity differences. It was often mentioned, that the private providers have been more successful in recruiting experienced physicians, which has led to e.g. better accessibility. Many public managers said that they would have little to no problems with accessibility and other aspects in case they would not have the current problems with recruiting workforce.

4.2.6. Interviewees perceptions on primary care management and public-private differences

The most commonly noted difference between the type of providers was the flexibility and agility of private providers in contrast to the rather stiff operations of public providers. This is due to a few reasons. First, it was noted that as the vacancies in public health primary care production are often decided in municipal government, it leaves less management tools for immediate supervisors to adjust according to the situation. It is also unclear, whether the public providers could adjust their personnel-mix similarly to private providers in quick succession due to this. At least Jyväskylä noted that these problems with recruiting and personnel-mix was a large reason for the outsourcing. Second, the role of workers unions is more impactful in public production. It was mentioned that the physicians' collective bargaining agreement makes it more difficult to adjust and rearrange the assignments of physicians to nurses as at least part of the physicians pay in public providers is based on the procedures they do to patients. It was said that the workers unions complicate creation of incentive systems, which was mentioned as a reason for problems in recruiting.

The agility of the private providers was said to show especially in use and development of digital solutions. E.g. analysis and development of data to be used in their management is enabled through this, discussed more thoroughly in chapter 4.2.2. An example of digital solutions that was mentioned is a digital reception available for the population of the private

health centers in the municipalities. It is unclear whether this type of reception is available in Espoo's and Jyväskylä's public health centers, whereas Tampere provides digital reception services. Further digital solutions in the private organization are developed by a large development team, which is a resource that at least smaller municipalities would not have available.

Another difference that arose was in the mentality of the providers. This was exemplified by the scale of services, especially non-medical, provided by the health centers and the appointment process. As for the services, the private providers seemed to focus more on the primary mission of their production, the medical services, whereas some public providers mentioned having e.g. information desk where people might ask about bus timetables among other things. Even though a minor detail, these comments created an impression that the public providers felt they have much broader responsibility to serve their population. An aspect of the service responsibility mentioned is that the municipalities have a responsibility to provide employment, therefore the public providers might have personnel who are only partly fit for work. Regarding the appointment process, as mentioned the private providers have more thorough evaluation of need for care, whereas the public providers have more open book approach to appointments. This further supported the impression of broader responsibility, as the public providers would give appointments easier for patients. On the other hand, it was noted that the strict evaluation of need for care process leads to more equitable outcomes as the people with actual needs get the care in time, not the ones that shout the loudest. A public manager mentioned that the open book appointment process might cause a negative spiral as the long waiting times to non-urgent care mean people will find reasons to get an urgent care appointment.

It was often noted by public managers that the differences in appointment process leads to some private providers' patients transferring to the public health centers. They felt that those patients would generally be more demanding, whereas there is little to no data to support the argument. In general, the data on patient transfers is lacking and would probably provide useful information if available. On the other hand, the private managers and some public managers felt that the population is generally similar, and the essential service-mix is the same or similar for both types of providers.

The shared sentiment on both public and private managers was that the public providers could benefit from the service process management of the private providers in order to develop their

processes. The co-operation and internal benchmarking were often mentioned as reasons for the outsourcing and generally the sentiment was that the process has worked well thus far. Additionally, the private organization felt that the municipalities and public administration is a crucial partner for them. Although things are done different by the providers and municipalities, the overall development of Finnish primary care seemed to be the main agenda of every interviewee.

4.3. Summary of the results

Chapter 4.1. covered the analysis of the operational figures of the health centers from multiple aspects. The analysis uncovered a few interesting results. First, the ratio of patient visits in public and private health centers varied rather drastically, especially in Espoo and Jyväskylä. The private health centers had relatively more nurse visits than physician visits. Second, the accessibility figures measured by T3-time were lower in private health centers for every municipality, bar one health center in Espoo. Third, the patient satisfaction figures tended to be little higher in public health centers, whereas it should be noted that the figures were excellent everywhere and the differences were rather small. A notable exception is Tampere, where the patient satisfaction of private health centers rose to higher figures in 2019 compared to the public ones. In other measures there were no indication of public or private health centers having constantly lower or higher figures within the municipalities.

As such, the results posed a few questions for the interviews, covered in chapter 4.2. First, the ratio of patient visits suggested a different operating model amongst the health centers; the private health centers would likely have more nurse-led appointments or have more nurse personnel. The interviews mostly confirmed the assumption, and this is likely one of the largest organizational differences between the public and private operators.

Second, accessibility and improving it would benefit immensely for finding the best practices. The largest factor for the differences was mentioned to be evaluation of need for care and the management of the process. Additionally, information management, utilization of nurse resources and other smaller factors was mentioned as beneficial practices. A private manager mentioned that the difference forms from many minor details. Overall, the focus on operations management is a large factor in improving accessibility.

Regarding the third difference, patient satisfaction, the interviews didn't specifically highlight differences that would explain the results. It might be that more open approach to health care in public side causes higher patient satisfaction. Additionally, if the public providers have longer appointments as in Espoo, the patient satisfaction might be increased.

As cost-efficiency is often argued as a major reason for outsourcing processes, it would have been important to find differences in costs. As the cost data of the private providers is deemed as a competitive secret, it was not possible to accurately evaluate cost-efficiency. Regardless, there was data on the price or cost to purchaser for both private and public health centers, which proved little to no differences to either direction. Regardless, as the private providers are profitable, it would suggest their cost of care is lower than for the public providers, suggesting better cost-efficiency.

Overall, the differences between private and public providers was rather small. The private providers tended to focus more on the organizational efficiency and improving service process. On the other hand, many public managers felt that they had larger responsibility to serve the population of their municipality. These summarized top-level differences might be attributed to the more exact differences found and disclosed previously.

5. Discussion and conclusions

The purpose of the study was to benchmark different primary care operators, i.e. health centers, in three Finnish municipalities first by comparing operational figures and secondarily interviewing the health center management. Through this the purpose was to answer the two research questions: whether there are differences amongst the health centers in operational metrics and what causes the differences.

In prior research the most common problem found within Finnish primary care has been in access, whereas quality and cost have been generally deemed acceptable or good (e.g. Sinervo et al., 2016; Tynkkynen et al., 2016). In order to improve their health care production or develop through co-operation, some large municipalities have outsourced some of their primary care production to private providers and the studied health centers included both privately and publicly managed health centers. In addition, some small municipalities have outsourced their whole primary care and social work processes, but these were not focused on in this study.

The first phase of benchmarking showed that in contrast to the health centers population there were little consistent differences between public and private providers in areas such as consultation figures, patient satisfaction, referrals, imagings and cost. Though the providers noted that the cost figures are not necessarily comparable due to different costs being allocated in total. Also, the price of service production for the municipality is not the same as cost for care for the private providers, which makes the comparisons more difficult if not impossible. It should be noted, that the private providers tend to be profitable, therefore the cost of care is lower than the price for the purchaser.

The largest consistent difference found was in access, which was often better with the private providers. As this has been the largest problem in Finland, it could be argued that the private providers have found an operational model, which creates better production outcomes. A possible explanation for the better access metrics that was visible in the data was in differences in who does the consultations: for private providers the nurses do higher share of consultations compared to the public providers in general. Thus, the answer to the first research question is that there are only minor differences in most areas, whereas in few areas the differences are quite large and consistent.

On the second part, the semi-structured interviews, the focus was on finding the management methods that create the differences, thus answering the second research question. The first thing to note from these was that generally the answers of private providers were clearer and more concise. This could be due to a couple of reasons. First, the contracts the municipalities have with the outsourced providers clearly define the metrics to follow and operations to focus on, whereas the public providers might have broader service scope. Second, the private organization seemed to focus more on improving their service process and developing their management, which would lead to more focused management and operations. This is utilized by e.g. internal and external benchmarking and usage of data. In my view, the public organizations could create similar contracts for their own production by utilizing PPS in order to make the mission and goals clearer. As mentioned in the interviews, the health centers tend to have patients coming to consultations with multiple problems, often non-medical, which makes the target-setting more difficult. Still, as physicians and other medical workers tend to be rather limited and expensive resource, the allocation of such resources could be improved on.

Second large difference was in the autonomy of the providers: the public organizations generally wanted their health centers to operate in similar fashion, whereas the private providers had rather large autonomy to innovate and try new things. This autonomy has enabled e.g. better internal benchmarking as a tool for innovation and development. This also means that the health centers are able to adjust quicker to new situations and models compared to the larger public organizations. The autonomy is also connected to the flexibility of operations. The public providers seemed to have less flexibility in regards of recruiting and service production organization. E.g. the personnel-mix and vacancies are often decided on the municipal government level, which makes adjustments slow and difficult. Therefore, it is more difficult to organize some of the physicians work to nurses as the private providers have done, which could be a major reason for the better accessibility. Last, the evaluation of need for care seemed to be much more thorough in the private health centers, which is a tool to reorganize the work and to improve accessibility.

The conclusion from the result would be that many Finnish municipalities could benefit from outsourcing some of their primary care production to private providers. Therefore, the municipalities could be able to develop their own production by co-operation and possibly achieve cost benefits to their production. In the outsourcing process the contracting is crucial: demanding the right things and measuring the right things. Additionally, prior to any outsourcing decisions it should be clear why the outsourcing is done; willingness to improve own production through co-operation and benchmarking, increasing accessibility, cost reduction, some combination of factors or other reasons.

5.1. Limitations of the study

As the municipalities studied are 3 of the 7 largest municipalities in Finland, it is possible that the results would not directly translate to other areas. It is likely that the private providers would have bigger edge on the production figures in comparison to smaller municipalities as they have larger organization to develop and research their processes. On the other hand, as the municipalities get smaller, it is more difficult to outsource only a part of the production if the municipality has only few health centers. As such, the findings on differences between private and public providers might not translate well to other areas, or at least such claim would require more evidence for support. On the other hand, the management practices found should be scalable to other operations as well, therefore providing value to providers outside the scope of this study.

Additionally, the sample size of the study is limited, as only few health centers were studied in three municipalities. This means that interpreting the quantitative results is limited and little to none definite claims can be made. The relatively small sample size provides limitations in two ways. First, as the municipalities have multiple health centers that was not studied, the municipal average figures might be much higher or lower than presented in the data. Therefore, the public providers might really operate relatively better or worse than presented. To my understanding most of the private health centers in the municipalities were researched. Second, the small number of municipalities mean that the results might not be adaptable to other Finnish municipalities due to differences in management practices, data collection and others.

The differences in data collection practices provide additional limitations to the study. As in some instances the municipalities gather different types of data or collects the data differently, comparing municipalities to one another was nearly impossible. Additionally, the information on e.g. referrals, imagings, laboratory studies and cost were not reliable enough in order to make further analyses. It is also questionable that to what extent is the data followed upon; even if the data is gathered but not measured or followed, the quality of said data might be lower.

On the qualitative side, a clear limitation was posed due to cancelling of the interviews due to COVID-19. In the end, most of the management was interviewed, but unfortunately management of both public health centers in Jyväskylä, the private health center in Espoo and a public health center in Tampere was not interviewed. Therefore, the interview data is also limited, especially in Espoo and Jyväskylä. Regardless, the interviews provided valuable information on the practices the managements found useful and successful.

Last, it needs to be noted that the writer of the thesis lacks medical education and therefore expertise on the clinical side of the study. Therefore, many aspects of the health centers' service had to be overlooked and the focus was primarily on the production figures and management.

5.2. Possibilities for future research

As mentioned, the study was conducted on large Finnish municipalities, which are able to outsource parts of their service production thus enabling co-operation with the private sector. Still, many Finnish purchasers, i.e. municipalities, are much smaller which poses different problems and challenges regarding primary care production and outsourcing. Therefore, it

would be important to study situations where a municipality has outsourced all or most of their primary care production to private providers, both for the time after the outsourcing is done and when a municipality has set back up their own production after outsourcing, if such cases are available. As the share of the outsourced production increases, the dependency of private providers increases as well, which could increase risk to an extent. Therefore, studying such subject would be important.

Second, it could be beneficial to study same or similar subject with broadening or focusing the scope of the study. By broadening the scope to include more health centers or municipalities, the study could provide much better generalized idea of the state of Finnish primary care providers. On the other hand, by focusing on either a few aspects of the study or a few health centers, the study could provide valuable insight on the different subjects.

As this study did not evaluate the clinical aspects of care, an area of focus and further research could be studying the evaluation of need for care by studying both medical requirements and guidelines of the process as well as the efficiency effects. As seen, it is a crucial step in improving the process efficiency, whereas the actual guidelines are strictly medical. Therefore, it would require medical experts to evaluate which type of medical needs can be treated with different methods, including phone or electronic consultations to physician visits.

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Attachments

Attachment 1. Interview guide in Finnish and English

Taustatietoja toiminnan johtajasta

- Ammatillinen tausta (hoitaja, lääkäri, esimies, jne.)
- Kokemus nykyisessä tehtävässä, vuosia
- Kokemus perusterveydenhuollossa, vuosia?
- Kokemus muilla sektoreilla/toiminnoissa?
- Muu oleellinen tieto?

Taustatietoa vastaanotosta/terveyskeskuksesta (jossain määrin saatavilla julkisista rekistereistä ja dokumenteista)

- Julkinen/yksityinen
- Koko – Henkilöstö ja potilaat/asiakkaat
- Potilaiden ominaispiirteitä
- Henkilöstön koostumus
- Tilanne liittyen henkilöstöön, sitouttamiseen, muut haasteet

Organisaation tarkoitus ja tavoitteet

- Mikä on toiminnan missio? Onko se selkeä? Erityisesti rajapinta esh ja sosiaalitoimi, ennaltaehkäisevän työn rooli
- Kuvaile organisaatiosi yleiset tavoitteet/päämäärät (saatavuus, laatu, oikeudenmukaisuus, tehokkuus, kustannuskontrolli, innovaatiot)?
- Onko eri päämäärille yksityiskohtaisia tavoitteita?
- Kuka asettaa tavoitteet ja mittarit (ulkoinen: omistaja/ostaja vai sisäinen: johto, osallistava prosessi vai ylhäältä-alas, budjettirajoitteet/palveluntarjoajan korvausjärjestelmät jne.)?
- Ovatko nämä tavoitteet toisiaan tukevia vai jotenkin ristiriidassa? Mikäli ristiriidassa, mitä priorisoidaan ja miksi? (Yhdistä kysymys yleiseen suorituskykyyn ja kuinka se on kehittynyt)

Laatu ja innovaatiot

- Kuinka työskentelette innovaatioiden ja laadun parannusten kanssa?

- Tekijöitä heikentämässä tai mahdollistamassa?
- Selkeitä tavoitteita tai osa-alueita?
- Ostajan tuki (makro)?
- Tuki organisaation sisältä (meso)?

Johdon kontrollin malli ja käyttö

- Yritättekö parantaa organisaationne suorituskykyä? (Kaikki vastannee kyllä -> jatko: Kuinka yrität tehdä sitä?)
- Mitä kontrolleja käytetään tavoitteiden saavuttamisen varmistamiseksi?
    - Suunnittelu
    - PMS
    - Ohjeet
    - Keskustelut/palaute
    - Kannustimet
- Mi(t)kä kontrolli(t) on (ovat) tärkeimmät?
- Sisäisen vs ulkoisen (esim. tarkastukset ja palaute) kontrollin rooli (mitä on mahdollista päättää sisäisesti)
- Raportoinnin vaatimukset, hallinnollinen taakka
- Muutokset kontrolleissa viime vuosien aikana, miksi tehty, lopputulokset?

Tuotanto ja tuottavuus

- Onko olemassa numeerista keskiarvoa tai tavoitetta lääkärien päivittäisten potilastapaamisten määrän liittyen?
- Mikä vie isoimman osan heidän ajastaan (hallinto, koordinointi, jne)?
- Kuinka työmäärä on jaettu hoitajien ja lääkärien välillä potilaiden tapaamiseen liittyen?
- Työtuntien joustavuus?
- Mikä selittää tuottavuuserot toimipisteiden välillä?

Mikä on näkemyksesi liittyen eroavaisuuksiin tavoitteissa ja johtamistavoissa yksityisen ja julkisen toimijan välillä?
Muita ajatuksia liittyen johtamiseen ja hallintoon perusterveydenhuollossa?

Background information about managing director

- Professional background (nurse, doctor, managerial, etc.)
- Number of years at current position
- Number of years in RS
- Experience from other sectors/settings
- Other relevant info

Background information about practice (available in registers & documents to some extent)

- Public/private
- Size – patient and staff
- Patient characteristics
- Staff mix
- Situation with regard to staffing, retention, other challenges

Purpose and objectives of organization

- What is the mission/purpose of the practice/operations? Is it clear?
- Describe the overall objectives of your organization (access, quality, equity, effectiveness, cost control, innovations)?
- Are there specific targets for different objectives?
- Who sets targets and measures (external: owners/purchaser or internal: management, participatory process or top down, budgetary constraint/provider payment system etc)
- What objective (if any) is the most important?
- Are these objectives reinforcing or somehow in conflict? If conflict, what gets prioritized and why? (Relate to question overall performance and how it has developed)

Quality and innovations

- How do you work with innovations and quality improvements?
- Factors hindering or facilitating?
- Clear goals or areas?
- Support from purchaser (macro)?
- Support inside organization (meso)?

The design and use of management controls

- Do you try to improve the performance of your organization? (They would all answer yes => continue: how do you try to do that?
- What controls are used to ensure that goals are fulfilled?
    - Planning
    - PMS
    - Guidelines
    - Dialogue/Feedback
    - Incentives
- What control(s) is (are) the most important?
- Role of internal versus external (e.g. audit and feedback) controls (what is possible to decide internally)
- Reporting requirements, administrative burden

- Changes in controls over past years, and why, and outcomes?

Production and productivity

- Is there an average or target number of patients doctors see each day or week.
- What consumes their time (administration, coordination, etc.)
- How is work divided between nurses and doctors what comes to patient contacts
- Flexibility of working hours
- What explains differences in productivity between practices?

What is your perception regarding the differences in objectives and ways to manage what comes to public and private units?

Other thoughts about leadership and management in primary care?